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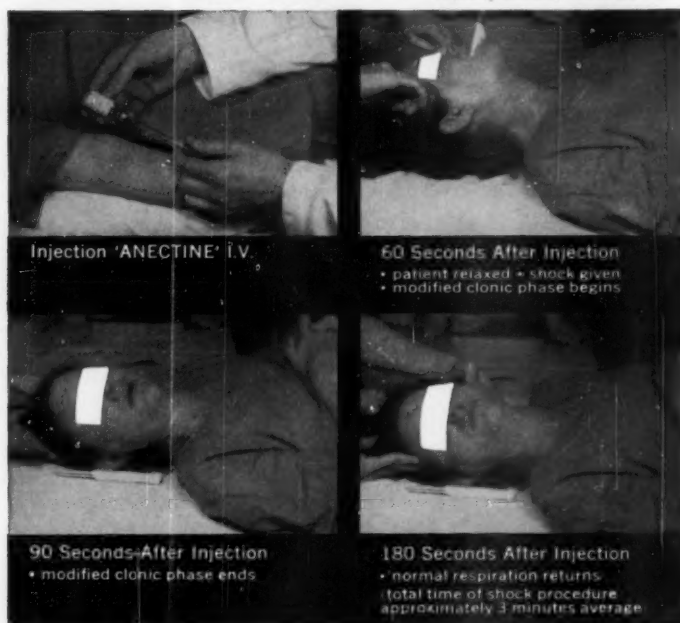
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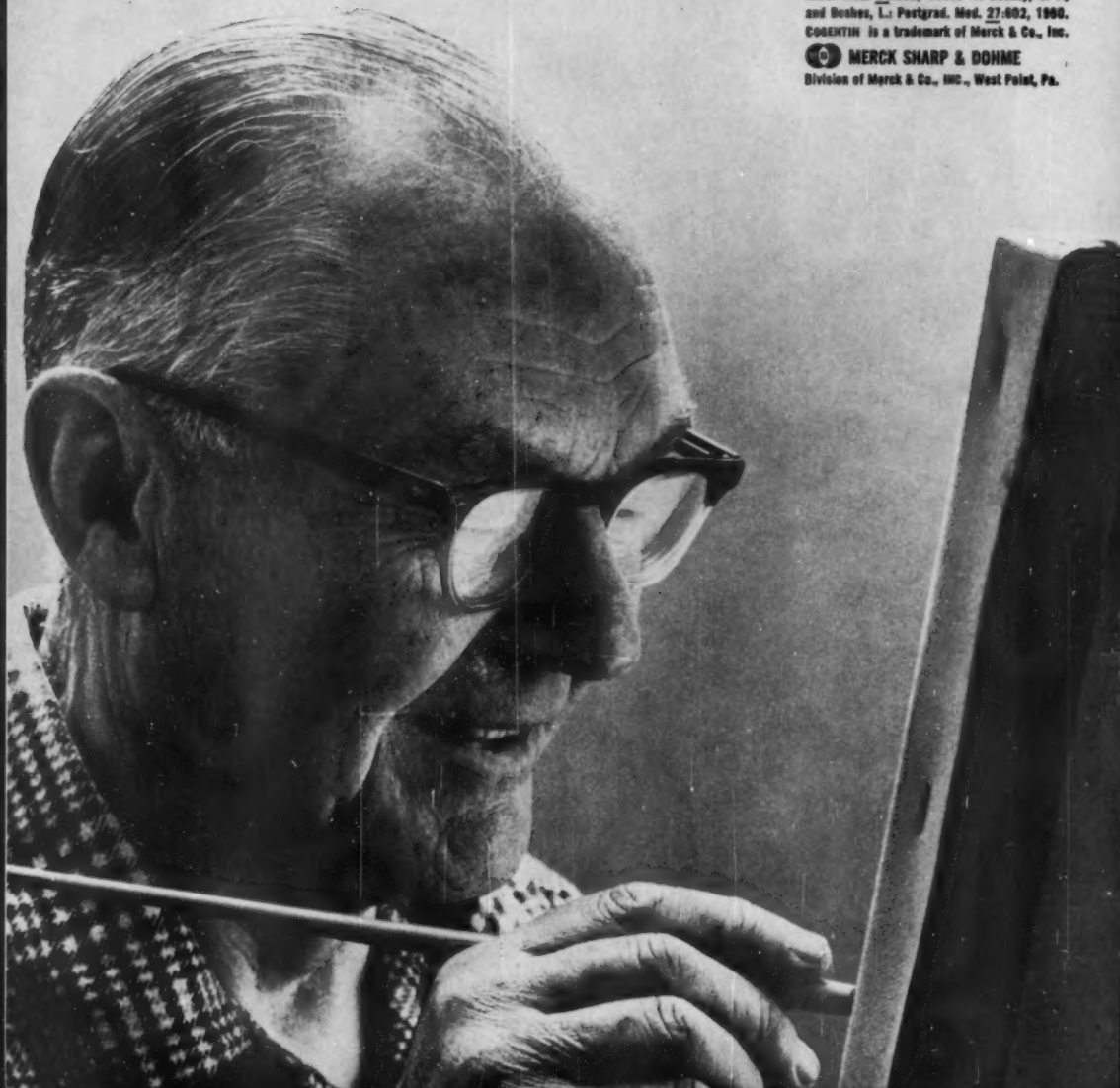
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1. Alexander, L. (35 patients). Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. *J.A.M.A.* 160:1019, March 1, 1958. 2. Boreman, J. C. and Carlton, H. N. (50 patients). Meprobamate and benactyzine hydrochloride (Deprol) as adjunctive therapy for patients with advanced cancer. *Antibiotic Med. & Clin. Therapy* 6:448, Nov. 1959. 3. Bart, J. L., Tauber, H., Santy, A. and Pulito, F. (77 patients). Treatment of depressive states in office practice. *Dis. Nerv. System* 20:263, June 1959. 4. Breitner, C. (31 patients). On mental depressions. *Dis. Nerv. System* 20:142, [Section Two], May 1959. 5. London, M. E. (50 patients). Choosing the right drug for the patient. Submitted for publication, 1960. 6. McClure, C. W., Paoos, P. N., Spore, G. S., Palmer, E., Slattery, J. J., Konigal, S. H., Henken, B. S., Wood, C. A. and Ceresa, G. B. (128 patients). Treatment of depression—New techniques and therapy. *Am. Pract. & Digest Treat.* 10:1525, Sept. 1959. 7. Pennington, V. M. (135 patients). Meprobamate-benactyzine (Deprol) in the treatment of chronic brain syndrome, schizophrenia and senility. *J. Am. Geriatrics Soc.* 7:456, Aug. 1959. 8. Rickels, K. and Ewing, J. H. (35 patients). Deprol in depressive conditions. *Dis. Nerv. System* 20:364, [Section One], Aug. 1959. 9. Ruchwarger, A. (87 patients). Use of Deprol (meprobamate combined with benactyzine hydrochloride) in the office treatment of depression. *M. Ann. District of Columbia* 28:438, Aug. 1959. 10. Sertel, E. (52 patients). Treatment of depression in the elderly with a meprobamate-benactyzine hydrochloride combination (Deprol). *Antibiotic Med. & Clin. Therapy* 7:26, Jan. 1960. 11. Splittner, S. R. (84 patients). The care of the anxious and the depressed. Submitted for publication, 1959.

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'Parnate' is a new agent, effective in the relief of the symptoms of mental depression. Pharmacologically, it is a monoamine oxidase (MAO) inhibitor; chemically, a new compound that is distinct from the earlier "psychic energizers."

Improved usefulness in treating depressions. "Preliminary clinical experience indicates that tranylcypromine ('Parnate') is an improved type of monoamine oxidase inhibitor that appears to be more rapid in its action, effective in smaller doses . . . and relatively free of side effects."¹

More rapid onset of action. "An outstanding aspect of therapy with ['Parnate'] was its unusual rapidity of action; most patients began to show lifting of depression in less than 5 days."²

PRESCRIBING INFORMATION

The physician should be familiar with the material on dosage, side effects and cautions given below before prescribing 'Parnate', and with the principles of monoamine oxidase inhibitor therapy and the side effects of this class of drugs as reported in the literature. Also, the physician should be familiar with the symptomatology of mental depressions and alternative methods of treatment to aid in the careful selection of patients for 'Parnate' therapy.

INDICATIONS AND LIMITATIONS OF USE: For the relief of symptoms of mental depression, i.e., dejected mood, self-depreciation, lowered activity levels, difficulty in making decisions, disturbed eating and sleeping patterns, and variations of these basic symptoms. 'Parnate' controls depressive symptoms only. In cases with mixed depression and anxiety, 'Parnate' may aggravate the anxiety or increase agitation. If this occurs, reduce dosage or administer a phenothiazine tranquilizer concurrently.

'Parnate' is indicated in the following diagnostic categories, subject to the limitation stated above: reactive and other psychoneurotic depressions, involutional melancholia, depressive phase of manic-depressive psychosis, psychotic depressive reactions. With respect to severe endogenous depressions, it is impossible to predict, with presently known data, which patients will respond best to 'Parnate' and which to ECT. 'Parnate' may be indicated in some reactive depressions in which ECT is not indicated. 'Parnate' is not recommended to treat essentially normal responses to temporary situational difficulties.

NOTE: In depressed patients, the possibility of suicide should always be considered and adequate precautions taken. Exclusive reliance on drug therapy to prevent suicidal attempts is unwarranted, as there may be a delay in the onset of therapeutic effect or an increase in anxiety and agitation. Also, of course, some patients fail to respond to drug therapy.

DOSAGE: Dosage should be adjusted to the requirements of the individual patient. Dosage increases should be made only in increments of 10 mg. per day and ordinarily at intervals of one to three weeks. Side effects occur more often as dosage is increased.

Reduction from peak to maintenance dosage may be desirable before withdrawal. If withdrawn prematurely, original symptoms will recur. Experimental work indicates that inhibition of monoamine oxidase persists for only a few days after withdrawal. Thus,

any side effects due to this inhibition will probably recede rapidly upon withdrawal, which should be a distinct advantage of 'Parnate' therapy when the patient exhibits poor tolerance to antidepressant medication.

Standard dosage schedule

1. Recommended starting dosage is 20 mg. per day—10 mg. morning and afternoon.
2. Continue this dosage for 2 to 3 weeks.
3. If no response, increase dosage to 30 mg. daily—20 mg. upon arising and 10 mg. in the afternoon.
4. Continue this dosage for at least a week.
5. As soon as a satisfactory response is obtained, dosage may usually be reduced to a maintenance level.
6. Some patients will be maintained on 20 mg. per day; many will need only 10 mg. daily.

When ECT is being administered concurrently, 10 mg. b.i.d. can usually be given during the series, then reduced to 10 mg. daily for maintenance therapy.

NOTE: Because side effects are dose-related, dosage should not be raised above 30 mg. per day unless the physician first becomes familiar with the information on the use of intensive dosages of 'Parnate' in patients who are hospitalized or under comparable supervision. See available comprehensive literature, your SK&F representative, or your pharmacist.

SIDE EFFECTS: The patient may experience restlessness, overstimulation, or insomnia; may notice some weakness, drowsiness, episodes of dizziness, or dry mouth; or may report nausea, diarrhea, abdominal pain, or constipation. Occasionally, headaches have occurred. Symptoms of postural hypotension have been seen, most commonly, but not exclusively, in patients with pre-existent hypertension; blood pressure returns to pretreatment levels rapidly upon discontinuation of the drug. Other side effects which might occur in rare instances are tachycardia, urinary retention, significant anorexia, skin rashes, edema, palpitations, blurred vision, tinnitus, chills, paresthesia, muscle spasm and tremors, impotence, sweating and possibly paradoxical hypertension.

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True antidepressant effect. "Those patients who responded to ['Parnate'] therapy experienced increased energy and interest without euphoria and restlessness; they were relieved of their thoughts of guilt and worthlessness, and looked and felt cheerful."³

Valuable in psychotherapy. "... when the patient recognized the improvement that was taking place [during 'Parnate' therapy], his participation in psychotherapy increased markedly, and subsequent improvement was rapid."⁴

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Most of these side effects can usually be relieved by lowering the dosage or by giving suitable concomitant medication.

CAUTIONS: Extensive clinical and laboratory work has shown that there is little likelihood of blood or liver toxicity. Since 'Parnate' is a non-hydrazine compound, it should prove to be exempt from the toxic effects on the liver thought to be due to the hydrazine moiety of some other drugs. However, severe toxic reactions have occurred with some monoamine oxidase inhibitors. Pending further clinical experience 'Parnate' should probably not be used in patients with a history of liver disease or in those with abnormal liver function tests. Drug-induced jaundice is often difficult to differentiate from other jaundice. However, there has been sufficient clinical experience with 'Parnate' to demonstrate that, if it has any potentiality for producing jaundice, the reaction must be rare. Also, the usual precautions should be observed in patients with impaired renal function since there is a possibility of accumulative effects in such patients.

Although 'Parnate' has been used in combination with various drugs (particularly Stelazine®, brand of trifluoperazine), some monoamine oxidase inhibitors have been reported to have marked potentiating effects on certain drugs, e.g., sympathomimetics, central nervous system depressants, hypotensive agents and alcohol. Therefore, the physician should bear in mind the possibility of a lowered margin of safety when 'Parnate' is combined with potent drugs and should adjust dosage carefully.

'Parnate' should not be used in combination with imipramine. (The reaction of a patient who attempted suicide with a deliberate overdose of 'Parnate' and imipramine was more severe than would have been predicted from the properties of either drug.)

CASES REQUIRING SPECIAL CONSIDERATION: Administer with caution to patients with recent myocardial infarction or coronary artery disease with angina of effort. Increased physical activity and, more rarely, hypotension have been reported. The pharmacologic properties of 'Parnate' suggest that it may have a capacity to suppress anginal pain that would otherwise serve as a warning sign of myocardial ischemia. When 'Parnate', like any agent which lowers blood pressure, is withdrawn from patients who tend to be hypertensive, blood pressure may again rise to undesirable levels.

When 'Parnate' is combined with a phenothiazine derivative or other compound known to affect blood pressure, elderly patients and

those with cardiovascular inadequacies should be observed more closely because of the possibility of additive hypotensive effects.

In patients being transferred to 'Parnate' from another monoamine oxidase inhibitor or from imipramine, allow a medication-free interval of one week, then initiate 'Parnate' using half the normal dosage for at least the first week of therapy. Similarly, a few days should elapse between the discontinuance of 'Parnate' and the administration of another monoamine oxidase inhibitor or of imipramine.

Because the influence of 'Parnate' on the convulsive threshold is variable in animal experiments, suitable precautions should be taken if epileptic patients are treated.

REFERENCES AND BIBLIOGRAPHY:

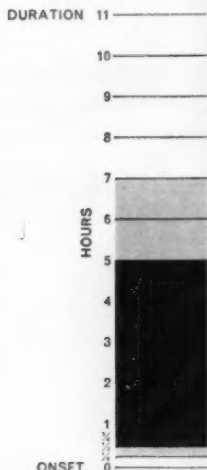
1. Lemere, F.: Tranylcypromine ('Parnate'), A New Monoamine Oxidase Inhibitor, *Am. J. Psychiat.* 117:249 (Sept.) 1960.
2. Petersen, M.C.: Depression: Treatment with a New Antidepressant—Tranylcypromine, report accompanying scientific exhibit at the 116th A.P.A. Meeting, Atlantic City, New Jersey, May 9-13, 1960.
3. Roebuck, B.E., and MacCubbin, H.P.: Treatment of Depression with Tranylcypromine, report accompanying scientific exhibit at the 13th Annual A.M.A. Clinical Meeting, Dallas, Texas, Dec. 1-4, 1959.
4. Agin, H.V.: Tranylcypromine in Depression: A Clinical Report, *Am. J. Psychiat.* 117:150 (Aug.) 1960.
5. Petersen, M.C., and McBrayer, J.W.: Treatment of Affective Depression with Trans-dl-Phenylcyclopropylamine Hydrochloride: A Preliminary Report, *Am. J. Psychiat.* 116:67 (July) 1959.
6. Scherbel, A.L.: Clinical Evaluation of the Antidepressant Action of 'Parnate' (Tranylcypromine), paper read at the 1959 Meeting of the Academy of Psychosomatic Medicine, Cleveland, Ohio, Oct. 15-17, 1959.

AVAILABLE: 'Parnate' Tablets, 10 mg., in bottles of 50. Each tablet contains 10 mg. of tranylcypromine (trans-dl-2-phenylcyclopropylamine) as the sulfate.

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EVOLUTION OF MENTAL HEALTH PROGRAMME IN TAIWAN

TSUNG-YI LIN, M.D.¹

A brief description of the conditions in 1946 when modern psychiatry was introduced in Taiwan may be necessary. The handing over of the Japanese Administration to the Chinese resulted in the complete overhaul and reorganization of political, military, social, economic and educational systems as well as in a change of official language. The Government was burdened by many important cares. The public, with little preparation, was absorbed in the effort of adjusting to a difficult transitional situation. The medical and public health professions were busy in their immediate tasks of combating the acute infectious diseases and restoring the services to the pre-war level which the inhabitants used to enjoy.

The situation regarding psychiatry can be easily summarized in one word: a vacuum. Since the Japanese psychiatrists had been repatriated and there was not one native Chinese sufficiently trained in this field, the only Government Mental Hospital with a capacity of 100 beds and two other public institutions run by charity organizations with 50 and 70 beds each merely housed un-cared-for lunatics. The Department of Psychiatry of the University Hospital was a deserted building filled only with cases of glass-ware and books, most of them useless. The general attitude of the medical profession as well as the lay public to psychiatry was characterized by indifference and contempt arising from their ignorance and also prejudice against mental illness. One more factor contributed to this negative attitude to psychiatry: there was a general belief that Chinese society needed little psychiatry because of its traditional philosophy and extended family system which act as protections against mental illness.

The task of initiating a psychiatric and mental health programme in Taiwan under such almost impossible circumstances presented an exceptional challenge to the

writer. After reviewing the situation and after considerable deliberation, it was clearly realized that no blue-print or precedent was available to act as a basis for the mental health planning in Taiwan. For such a situation, where a society with traditional Chinese culture and social institutions was experiencing transitional uneasiness arising, not only out of the political situation but also from rapid industrialization and modernization, was unique and therefore called for special consideration and careful planning. The plan had to be realistic, sensible and dynamic.

The first step was to define the magnitude of the problem by determining the prevalence of mental disorder in the community.

THE SURVEY AS A BASIS FOR MENTAL HEALTH PLANNING

Census surveys of a sample population in three communities—rural, small town and urban—were carried out from 1946 to 1948; altogether 19,931 people in these communities were studied. The aims of these surveys were:

1. To assess the mental health needs of the community through objective data on the prevalence of mental disorder.
2. To understand the available resources in the community through the study of the actual care of the mentally ill and the attitude of the family and society in general towards them.
3. To provide reliable data to be compared with those from other cultures.
4. To collect objective data on mental disorder and socio-cultural (ecological) factors in this community to gain an understanding of their relationship.

The research method and the results obtained are reported elsewhere(3). In this connexion only those findings which helped to formulate basic principles for a mental health programme and to establish priorities will be discussed.

The finding that 10.8 per 1000 in the

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sample population suffered from mental disorder needing psychiatric attention challenged the prevailing misconception that Chinese society was free from mental illness, and showed the problem to be of the same magnitude as in other societies. The fact that the great majority (over 95%) of the psychiatric cases were untreated provided further convincing evidence of the needs for a mental health programme. Upon the presentation of the data of the survey, the medical profession and health authority were stimulated to revise their traditional views of psychiatry and to pay more attention to the psychiatric problems of the community. In other words, the survey helped to create a more favourable attitude to a mental health programme on the part of medical and health authorities.

The pre-survey impression that Chinese society has a high threshold of tolerance to deviant behaviour was confirmed by the survey. This observation led to a basic and important query about the wisdom of developing a mental health programme along the traditional pattern of building mental hospitals. The proper use of the existing resources in the community, such as the strength of extended family relationship as expressed in the responsibility assumed by the family for the welfare of each member, became the central interest of the mental health planning.

Given the lack of practical psychiatric personnel of any category, the magnitude of mental health problems revealed by the surveys constituted a special challenge when it came to formulating and implementing a long-term programme. To this end, a 25-year mental health programme was evolved which was divided into three stages to accomplish the three major objectives envisaged:

1. To integrate psychiatry into medicine as a respectable member of the medical profession through the intensification of the teaching of psychiatry in the medical school.
2. To integrate mental health into public health practice.
3. To instill sound mental health principles into the general educational scheme.

SETTING UP A PSYCHIATRIC CENTRE AT THE UNIVERSITY HOSPITAL AND DEVELOPMENT OF A NUCLEUS OF STAFF AND INSTRUCTORS

It was argued that, unless psychiatry were accepted as a legitimate scientific discipline and a respectable member of the medical profession, it could have no prospect of future development; the logical place to foster its acceptance is through the medical school. The resistance to psychiatry on the part of both faculty and students was clearly apprehended. The social stigma attached to psychiatric illness, prejudice against the scientific grounding of the psychological sciences and disrespect for the psychiatrist as a fully-fledged member of the scientific and medical professions were widespread. The first and essential task had to be "educational" and two closely related projects were initiated: the establishment of the Department of Neurology and Psychiatry of the University Hospital and the intensification of the teaching of psychiatry to undergraduate medical and nursing students.

The functions envisaged for the Department of Neurology and Psychiatry are the following:

1. The location of the Department of Psychiatry in the University Hospital should provide a physical demonstration that psychiatry is part of medicine and should also facilitate a close collaboration between psychiatry and the other medical disciplines.
2. An active university department should serve as a centre of psychiatric treatment to show both the medical profession and the general public, who were firmly wedded to the idea that mental disorder was incurable and hereditary, that psychiatric illness can be treated and cured.
3. This should make psychiatric service of a non-custodial nature accessible to the patients and general public, and help to do away with the old associations of "mental illness—lunatics—asylums—bars and walls."
4. The Department should develop into a community mental health centre, equipped with such facilities as a social and domiciliary service, a children's clinic, a day hospital, etc.
5. The last and most essential function is to serve as a centre for teaching, training and research without which no sensible programme can be evolved and implemented.

The immediate task in the establishment of the Department was to secure and train a nucleus of staff capable of carrying out the clinical functions and also to develop a group of instructors for teaching and research. Fortunately, from the start, two to three intelligent medical graduates joined the Department each year for training in psychiatry. The training was done through supervised clinical work and group discussions on academic subjects. A few of the trained psychiatrists who showed ability and interest in academic work became instructors and helped with the undergraduate teaching programme which consisted at that time of a total of 64 hours of lectures. They took an active part also in the teaching of the nursing school, and several qualified nurses came every year to the Department for specialization in psychiatric nursing. Thanks to this young enthusiastic staff, the Department was able to establish its routine clinical service and also carry out the survey work.

Advanced training for the teaching staff started in 1950 when the writer, through the American Bureau of Medical Aid to China and a Harvard Research Fellowship, spent two years at the Boston Psychopathic Hospital. A Chinese psychiatric social worker, trained at Simmons College, who had had previous experience in Taiwan, joined the Department in 1953. Two more psychiatric instructors who had spent 5 to 7 years in the Department received advanced training in the United States and Canada.

The World Health Organization started its aid to the mental health project in Taiwan in 1955 and has generously and most effectively assisted in the advanced training of the teaching personnel in psychiatry and mental health. Two psychiatrists received one-year fellowships, one in the United States and the other in Europe; one clinical psychologist and one child psychiatrist studied in the United States for two years; one nurse in the United States for two years and two nurses two years each in the United Kingdom and the United States.

The formation of a nucleus of qualified staff at different disciplines and the prospect of more of them in the near future have made it possible to plan and implement a long-range programme. The basic principle

adopted was that no programme should be planned without preparation of the personnel and every project, clinical or otherwise, should include training as an essential aspect of its design.

INTENSIFICATION OF THE UNDERGRADUATE TEACHING OF PSYCHIATRY

Nevertheless, under the circumstances in 1946 in Taiwan, the choice between the intensification of undergraduate teaching of psychiatry to medical students and the training of specialized personnel such as psychiatrists, psychiatric nurses, psychiatric social workers and psychologists was not hard to make. The experience of the "advanced" countries had already clearly indicated that the training of specialized personnel alone never catches up with the needs of the community. Emphasis was to be laid, it was decided, upon the integration of psychiatry into the medical and nursing curriculum to teach students to understand and forward the mental health programme. Properly trained general physicians should be able to handle mild psychiatric problems. Home care and rehabilitation programmes should be the main line of development in the mental health programme and therefore local practitioners should be trained in this respect. Moreover, the attraction of young intelligent and properly motivated graduates to psychiatry as a specialty was essential.

The character of the medical curriculum is difficult to change, particularly when it has to do with psychiatry. A combination of circumstances made it possible to remodel the teaching of psychiatry at the National Taiwan University Medical College according to the policy formulated above. In 1953 and 1954 the medical curriculum of the University underwent dramatic revision: to increase efficiency the "block system" of teaching was adopted and teaching hours redistributed in accordance with modern medical trends. The recommendations regarding psychiatry of the two advisers on medical education² came as a surprise, both to the non-psychiatric faculty and to the

² Dr. H. Brown, Dean of the School of Public Health, Columbia University, and Dr. W. C. Davison, Dean of Duke University Medical School, were ICA medical education consultants in Taiwan in 1953 and 1954.

psychiatric department, because in the place of 64 hours of lectures on psychiatry for the whole medical curriculum, 16 hours were to be given as a course in medical psychology and 14 hours for neuropsychiatric diagnostics in pre-clinical years; each student was to have clerkship training for 9 full weeks, half of the students were to spend an additional 6 or 7 weeks as interns in the final year. This intensification of psychiatric teaching naturally was regarded by the other departments as an invasion and certainly presented a formidable task to the understaffed Department of Neurology and Psychiatry. The timely publication of the report of the Ithaca Conference (1952) made this seemingly impossible teaching load appear as both a challenge to take its share of responsibility in medical education and an opportunity to forward the advance of psychiatry.

The teaching programme is described elsewhere (4, 6) and only an outline is briefly given here. The lectures on medical psychology cover the principles of human behaviour and the growth and development of personality, particularly in relation to Chinese society and culture. The course on psychiatric diagnostics prepares the student for a better understanding of the psychology of the ill, the recognition of the subtle and gross signs of emotional and behavioural disturbances, interviewing technique and the doctor-patient relationship in a medical setting. The 9-week psychiatric clerkship training programme is characterized by the students' active participation in clinical work mainly with ambulatory patients and by academic instruction in seminars. The daily clinical work with one ambulatory patient helps the student not only to see the most common types of patients, but also illustrates for him the kind of problems which call for psychiatric attention. This experience is augmented by the daily case conferences of the Department which acquaint the student with the multidisciplinary intensive approach of the psychiatric team. The 60 subjects included in the seminars not only deal with clinical psychiatry and psychotherapy but also cover such areas as the biological basis of mind, personality development and child psychiatry, psychiatry and medicine (psychosomatic

medicine), the mental hospital, mental health (psychiatry, community and law). Through these seminars the student obtains a general picture of the current problems and trends of psychiatry and also the position and role of psychiatry in relation to medicine, public health and society.

Neurology is taught with psychiatry as an integral part of the curriculum and is presented so as to help the student understand the integrative function of the central nervous system in relation to outside stresses and also to the internal organs.

Another feature of this teaching programme is the strong emphasis on the students' active participation in the learning situation and the encouragement of self-education and critical thinking. Students are also encouraged to participate in ongoing research projects to which many of them respond with enthusiasm. An average of one-fifth of the students choose a subject in psychiatry for graduation thesis. These research activities have been regarded as a most fruitful experience both by the students and the staff.

One half of the students take up psychiatry as part of their rotating internship training for 7 weeks before graduation. The limit on the number of students is due to the limited facilities available. The aims of the intern training are to develop the students' understanding and skill in psychological medicine, in order that they may deal with mild psychiatric problems with greater confidence. For this, three types of instruction are given. First, psychotherapy of two patients under supervision, secondly, actual experiences in dealing with psychiatric problems in the emergency clinic, and thirdly, further experience in a ward with treatment procedure, physical as well as occupational and rehabilitational.

The results of the teaching programme still remain to be seen and a careful evaluation is indicated. The encouraging response to it may, however, justify the view that this programme should continue. The morale of the staff has risen substantially since the inception of the programme; this is equalled by the students' genuine interest in psychological medicine, which has replaced their original anxiety and prejudice. The appreciation shown by the students

for the teaching method which is strongly biased towards self-education is most encouraging. The increase of more intelligent consultations on psychiatric problems from other departments may also be the result of the extensive psychiatric instruction. This teaching programme, however, may and will change in accordance with the scientific evolution and the needs and resources of the time. The clear recognition of its dual responsibility in taking a proper share in medical education and in preparing the ground for the growth of psychiatry and the mental health programme should guide the future development of the programme.

POST-GRADUATE PSYCHIATRIC TRAINING PROGRAMME AND THE TRAINING OF OTHER PERSONNEL

With the growth, both in number and quality, of the staff and the increasing applications for specialist training, the time was felt to be ripe for the organization of a systematic post-graduate training programme in 1956. The extensive trip made by the writer, sponsored by WHO, to the United Kingdom, Europe and a number of Asian countries made a timely contribution to the shaping of this programme. Many useful observations were made and ideas obtained, both from visits to highly developed psychiatric centres and from contacts with colleagues engaged in pioneer work in mental health in the developing countries.

A few principles were formulated for the post-graduate training programme of psychiatric and mental health personnel:

1. The post-graduate training should be obtained locally, in order to familiarize the trainee with the common clinical problems and the needs and socio-cultural backgrounds of the patients, as well as with the philosophy and the state of development of the mental health programme in Taiwan.

2. No one school of thought should be adopted as the basis of theoretical teaching or clinical instruction; the trainee should be exposed to diverse views of psychiatry and encouraged to develop a balanced scientific viewpoint through critical thinking and reading.

3. Small group discussions, case conferences and seminars should, for prefer-

ence, be the methods employed, and a multidisciplinary team approach should be woven into all aspects of the training.

4. For a few of the staff selected for future leadership, an advanced training abroad should be provided; in this case, emphasis should lie not on obtaining a degree or diploma, but on widening the scope of the trainee and also on actual experience in specific fields.

The length of the post-graduate course is 4 years; the first 2 years for training in clinical psychiatry, psychotherapy and clinical neurology, the third year in child psychiatry and psychosomatic medicine, the fourth year in administrative psychiatry, forensic psychiatry and community mental health and experience in teaching. This programme is still at an experimental stage. Though it has been a slow process, a number of trained psychiatrists are now available to meet the expansion of the teaching programme, the community mental health programme and also for the improvement of the Government Mental Hospital.

As regards psychiatric nursing, a more or less similar programme has been adopted, but on a less intensive scale and, it is regretted, with less satisfactory results. This is largely due to the lack of leadership and of sufficiently trained instructors. The situation has greatly improved in the last few years since the arrival of the World Health Organization mental health nursing adviser and is expected to continue to improve with greater speed with the return of fully-trained instructors from abroad.

The other disciplines of the psychiatric team, i.e., clinical psychologist, psychiatric social worker, occupational and rehabilitational therapists, set a more serious problem for both recruitment and training, because these professions have never existed and were unheard of to many people, including some in responsible positions. It was therefore sought, through personal contacts, to get a few young people of unrelated professional background interested in the work and to give them the necessary training. Though work of this type is tedious and frequently very frustrating, the Department now comprises a psychiatric social worker trained in the United States, with three junior workers, a trained clinical psycholo-

gist with a junior staff and two occupational therapists. There is still a long way to go before schools or courses for training these workers, who are so essential to a mental health programme, can be established.

THE PLACE OF NEUROLOGY

Neurology has been an integral and important part of psychiatry, both in the clinical services and undergraduate and post-graduate teaching. Since the psychiatric activities in general are more oriented towards social psychiatry in Taiwan, neurological services have helped to provide a more balanced outlook. As neurology was also a heretofore neglected medical discipline in Taiwan, the difficulties in developing it into a full medical discipline are equal to those encountered with psychiatry. With the gradual growth of the Neurological Division, it is hoped that an independent unit will be established when the fully-trained senior neurologist returns from his training at the National Hospital for Neurological Diseases, Queen's Square, London.

Though not yet fully developed, this Division has made quite remarkable contributions. Several diseases which were believed to be rare or non-existent among the Chinese or the Orientals have been found, such as multiple sclerosis, Spielmeyer's amaurotic idiocy, Sturge-Weber's disease, Wilson's disease. The main clinical and research interests have been in the study of epilepsy, particularly among children. A study of the mental development of 500 epileptics is under way.

The research activities have so far been exclusively in clinical research. Recently a junior psychiatrist, who has finished his psychiatric training, has joined the United States Navy Medical Research Unit No. 2 at Taipei for post-graduate training in biochemistry, with a view to initiating a laboratory research programme in the Department of Neurology and Psychiatry in the near future.

The inclusion of neurology and psychiatry in one department has been a great asset, not only because it has provided the necessary biological viewpoints and skills to psychiatry, but it has also improved acceptance of the whole Department of Neurology and Psychiatry by other medical disciplines,

since the medical profession looks less askance at neurology than at psychiatry.

MENTAL HOSPITALS AND PSYCHIATRIC SERVICES

It is regretted that the improvement of the Government Mental Hospital and the planning of mental hospital services in general have been, in the first 10 years, out of the central focus of the mental health programme. It proved a practical impossibility radically to improve the conditions at the Mental Hospital without a core of sufficiently trained personnel, let alone to consider building new mental hospitals. The lack of a good psychiatric hospital has in turn, however, limited the scope of the post-graduate training programme, and also the possibilities for large scale training of psychiatric personnel.

It is now planned to build a 400-bed mental hospital in the South of Taiwan and so far wards totalling 120 beds have been completed; this hospital will become an affiliated teaching institution to a new medical college and also to the Department of Neurology and Psychiatry of the National Taiwan University. This programme is largely carried out with ICA aid from the United States of America, both for the construction of the hospital and the training of personnel, undertaken mainly by the Department of Neurology and Psychiatry.

The emphasis in the planning of clinical services in Taiwan will be on setting up psychiatric departments or clinics in general hospitals. The rapidity of this extension of services depends upon the rate at which trained psychiatrists and other personnel become available, and also on the acceptance, on the part of hospital authorities, of psychiatry.

MENTAL HEALTH AND PUBLIC HEALTH

The search for possible and constructive ways of introducing mental health principles into existing public health practice led to the conclusion that the main initial task should be "educational." The preoccupation with control of infectious diseases and reduction of mortality rates on the part of the health authority had, in the past, been too fixed to allow them to turn their attention to mental health. The main interest shown

by them in the subject had been the maintenance of the only mental hospital. Yet the magnitude of the mental health problems revealed by the surveys, the demonstration of the mental health work of the Department of Neurology and Psychiatry, and the increasing interest in psychiatry shown by young medical and nursing graduates combined to influence the attitude of the health authorities and the medical school, and resulted in the establishment of the Taipei Children's Mental Health Centre in 1955.³

The preparatory work began in 1952 when the Children's Clinic was set up in the Department of Neurology and Psychiatry; its main functions were, firstly, to find out whether it was justified to propose such an establishment and, secondly, to train a corps of mental health workers for children. The training of professional workers remains the major task of the Centre, but considerable contributions have already been made to both the undergraduate and post-graduate training programmes.

A major step towards the goal of introducing mental health into public health was taken in 1959 when a mental health mobile clinic was started. A weekly visit is made by a team of the Taipei Children's Mental Health Centre to the Public Health Training Centre located in a town outside Taipei. The mental health team, consisting of a senior psychiatrist, a psychiatric social worker, a public health/mental health nurse and a psychologist, conduct a conference to discuss cases presented by the staff and trainees; a seminar on major mental health problems encountered in public health work follows the case-conference. It is hoped to expand this activity to the newly-established Institute of Public Health, National Taiwan University, as part of its training programme for health officers.

The effects of such an undertaking are slow to appear and should be carefully weighed. Optimistic perseverance may be

rewarded in the future; in fact this has already occurred in its crudest form after a year's operation, as shown by the enthusiasm expressed by the trainees, the demand for more sessions and also the improved quality of the discussions. A most rewarding experience was the request for a special seminar course made by schoolteachers from the town in which the Public Health Nursing Training Centre is located and prompted by what they heard from the nurses about the course.

Two more projects have been undertaken by the mobile clinic, both in relation to school health, one with a school in Taipei, and the other with five schools at a small town and the adjacent rural area. Weekly seminars are conducted with groups of teachers on the identification of behaviour problems and possible approaches in their management. The emphasis in seminars and conferences is to encourage the participants to search for knowledge and effective tools in dealing with mental health problems rather than to give them "prescriptions," "blue-prints," or "theories." This method has been accepted as most stimulating and with the co-operation of these teachers a survey of the major psychological problems in primary schools is underway.

The National Association for Mental Hygiene has carried the major bulk of mental health education to the public since 1954. The shortage of manpower in mental health has again limited the scope of its work, but the initial efforts in reaching the teachers and college students, and the intellectuals of the community through seminars and lectures have obtained favourable responses. The publication of a series of mental health booklets and the mental health bulletin, in collaboration with the Taipei Children's Mental Health Centre, has succeeded in creating a ring of intellectual supporters in the community.

THE ROLE OF RESEARCH

At the start of the mental health planning it was the desire to assess mental health needs and to understand the resources in the community which led to the census surveys of mental disorder of the three communities. Their results and findings have provided the basis and guide lines for the

³ This Centre, located next to the Department of Neurology and Psychiatry of the University Hospital, is a joint project of the National Taiwan University and the provincial Government Public Health Administration. Dr. H. G. Gundry, WHO Consultant, helped in the planning of the Centre, and ICA donated the building which is presently adding a ward to accommodate 10 children.

ensuing developments in psychiatric education and community mental health programmes. The pragmatic approach which coloured the first phase of the introduction of psychiatry to Taiwan—initially it was manifested in the seeking of precise information by means of surveys—was further strengthened by the very success of the programme which emerged from these surveys. This orientation also permeated not only the clinical activities but the planning of further research programmes as well. Given the shortage of trained research personnel of any sort, the attempt to proceed through factual investigations has not been an easy task. It should be said that the opportunities for mental health research in Taiwan are exceedingly rich but the accomplishment so far has been embarrassingly minimal.

Some of the major researchers and research plans may be summarized as follows:

1. *Epidemiological Studies of Mental Disorders Among the Mountain Tribes.*—Following the surveys of Chinese communities, 4 tribes of the original Malayo-Polynesian inhabitants of Taiwan were studied between 1949 and 1953. These tribes lived in isolation from the Chinese population as well as from each other, differing in language, habits and levels of cultural development. The 4 tribes represented respectively the most "primitive," the most advanced and two intermediate groups.

The research technique adopted was similar to that used in the previous surveys in order that the findings might be comparable. The purpose of this research project was to find out whether the manifestations and prevalence of mental disorder differ between these tribes and the Chinese or differ among themselves, and if so, how they may be associated with socio-cultural and genetic factors. (The report of this study will be published by Rin in 1961.)

2. *Epidemiological study of high blood pressure.*—An increasing need was felt to examine the common belief that the Chinese had low blood pressure and were free from hypertension; hospital statistics and Government reports on mortality had begun to show the increased gravity of hypertension in the community. The rapid social

change after the influx of mainland Chinese since 1948 led to the postulation of a possible association between the apparent increase of hypertensives and socio-environmental factors. Epidemiological surveys of urban and rural populations were envisaged and the study of 9729 inhabitants over the age of 15 of both sexes living in two districts of Taipei was carried out in 1954.

Census household visits were made to measure the blood pressure as well as to collect the medical and social history of each inhabitant. The data are still in process of analysis and only a part of them has been reported (5, 6). It was clearly observed that though the Chinese had lower mean blood pressures in youth, their blood pressure rose with age and became comparable in middle-age to the occidental pressures. Correlation was found between the rates of hypertensives and upper class, and there was some suggestion that current psychosocial stresses experienced by the upper class may play a part in this.

This research project has not only formed a scientific pursuit but also offered unique opportunities for the development of the mental health programme; the collaboration of the departments of medicine and public health in the research has opened the door for further joint activities which, it is hoped, will result in a readier acceptance of psychiatry as a respectable member of the medical sciences.

3. *Therapeutic Effects of Family Attendance in the Psychiatric Ward.*—Traditionally, most hospitals allowed, on occasions even requested, the presence of a family member with the patient during hospitalization. With the introduction of modern hospital management and nursing, this practice began to fade away, or at least to be regarded as undesirable. The psychiatric ward of the University Hospital has, however, kept this practice up to the present and has started an objective study on its advantages and disadvantages from various angles.

The hypotheses derived from the observations of this practice in the past for this research project are the following:

(a) The presence of a family member should be helpful in the transitional adjustment of the patient to the new environ-

ment of the ward at the time of admission.

(b) The presence of a family member should provide opportunities for closer observation of the family relationship and thus assist in understanding some of the possible etiological inter-personal factors.

(c) The family member in the ward, through contacts with the staff and the other patients and their relatives, may learn about the nature of mental disorder and also the required attitude and may acquire some skill in dealing with the patient.

(d) The process of readjustment to the home environment should be made easier for the patient by the continuity provided by the presence of the family member and the understanding and skill acquired by the family.

The adverse effects of this practice are also being looked into, e.g., the effects of the introduction of the complicated family interaction into the therapeutic situation, in particular to the nursing structure. It would make a great impact on future mental hospital services in Taiwan if this practice proves to have beneficial influences on the therapeutic situation.

4. *Epidemiological Follow-up Surveys of Mental Disorder in Three Communities.*—

This projected study is planned to commence in 1961 i.e., 15 years after the previous surveys, and has two main inter-related purposes: (a) to ascertain the change with time in the prevalence of mental disorders in the communities which have undergone radical changes in terms of industrialization and ethnic composition and (b) to study, with more refined methodology and better trained personnel, the socio-environmental factors that may have a bearing on the occurrence and manifestation of different types of mental disorders. Longitudinal prospective studies of a general population are theoretically the ideal method for ascertaining the true incidence and also the natural history of mental disorder in a community. The immense practical difficulties involved both in terms of financial expenses and manpower, and the technical requirements of maintaining the stability of the population as well as the methodology employed, have led many researchers to refrain from the use of this method. It is felt that a follow-up survey

after a 15 years' interval may yield significant findings closely similar to life span prospective longitudinal studies while minimizing the practical difficulties. For this, Taiwan seems to offer good possibilities: the base line information, obtained 15 years ago, is available; the population, though having undergone considerable change in composition owing to the influx of the mainlanders, is well registered; and the same research team, with added experience, still maintains the same degree of interest in this study as 15 years ago. Some change in the methodology may, and undoubtedly will, take place. It is contemplated that, as well as repeating the census household visits, a 20% random sample may be used for more intensive investigations. The criteria adopted for the census investigation will be the same as used in the previous surveys, but may be slightly modified for the study of the random sample.

This research programme is, it is hoped, to be followed by a series of controlled studies to understand the meaning of the correlations between the differential rates of mental disorder in different sub-groups of the population. And, furthermore, another follow-up study 15 years later is also on the time-table of the research programme.

5. *Study of Child Development.*—Psychiatric work with Chinese children is again a completely new field, and the accumulated clinical experiences and some research data have presented a fund of information which does not easily fit into any of the more or less accepted schools of thought. The situation is made worse owing to the rapidly changing social circumstances which children are usually the first to perceive and respond to.

An example of the difficulties encountered may be taken from a research experience which has several parallels in the past. In the years 1947 and 1948 an attempt was made to establish a standardized intelligence test based on the Binet-Terman test and the Japanese Suzuki modification of the Binet test, the latter because of its cultural closeness to Chinese. After a pilot study of 50 children of different ages, a sample of 1,400 children of 5-12 years was chosen from three different schools, in addition to

a small number under the age of 5 directly from their homes. The investigator used at first Taiwanese dialect with small children and a mixture of Taiwanese dialect and Japanese (because Japanese was the official language until the end of the war) with the schoolchildren. After 6 months he found himself using less and less Japanese and in one year's time the use of Japanese was limited almost entirely to the fifth or sixth grade children. He was most puzzled to observe that, after giving the tests for a year, the facility for expression among schoolchildren was becoming extremely limited; for instance, they were unable to give a detailed description of concrete objects, and there was a poverty of abstract thinking for their age. It was thought at first that this might have been due to sampling bias—more children of poor mentality being tested in this particular period of the investigation, but it became clear, by re-testing some of the earlier subjects, that the enforced use of a new language, Mandarin Chinese, in the school was responsible for this restriction of expression. The scoring of the results obviously did not lend itself to any meaningful interpretation, and the whole project was called off temporarily until new patterns of communication and culture in general had established themselves in the community.

A longitudinal study of children from birth to early adulthood is being contemplated to obtain basic information about the patterns of growth and development. The main areas of investigation will be in the learning process, intellectual development, the patterns of relationship formation, attitudes to authority, and the development of the image of self in relation to the expectations of parents.

Many small pieces of research work have been completed or are in progress. It must be admitted, however, that the data obtained from all these research projects so far have added only very little to the fund of scientific knowledge of human behaviour, normal and abnormal, as compared with the vigorous and untiring efforts put into them. This was expected in view of the complex nature of human behaviour, and also of the limitation of the quantity and quality of our research personnel. Qualified

research personnel in psychiatry is difficult to obtain everywhere and it is particularly so in a place like Taiwan where no such personnel can be found ready-made. To obtain such a person, one must first find a young scientific brain, interest him in psychiatric science, find means for him to support himself throughout his psychiatric training, help him learn research technique through participation with research and then see to it that he takes up an academic career; every step of this process of "production" is vital to the end result. The same applies to the obtaining of non-psychiatric research personnel; acute needs are felt for a social scientist, an epidemiologist or biostatistician, and a geneticist, for the planned research projects. For success, the spirit of research should prevail in the Department and critical thinking pervade all activities. The Department is now fortunate in this respect, though still far from ideal. Four senior psychiatric instructors, one neurologist, one child psychiatrist, one clinical psychologist and one senior social worker are actively interested and engaged in research along with their teaching and clinical work. The effects on the junior staff and students have been quite remarkable.

CONCLUDING REMARKS

The mental health programme in Taiwan has made a modest start. The assistance, material and technical, and encouragement received from colleagues all over the world, through personal contacts or international, bilateral or private agencies, have played an important part in its development. To mention only a few: The American Bureau of Medical Aid to China, the Department of Psychiatry of the Harvard Medical School, the World Health Organization, the United States International Cooperation Administration Mission to China (Taiwan), the World Federation for Mental Health. The support given by the National Taiwan University and the Taiwan Provincial Health Administration has certainly been the key factor in the whole process of evolution. It is hoped that this assistance and goodwill will continue and increase to enable the mental programme to grow, looking forward to a day when it may take its

proper share in the advance of scientific knowledge as well as the welfare of mankind.

BIBLIOGRAPHY

1. Hung, T. P., and Lin, T. : The prevalence of elevated blood pressure in relation to sex, age, ethnic group and social class. To be published.
2. Ithaca Conference : Psychiatry and medical education ; report. Washington : American Psychiatric Association, 1952.
3. Lin, T. : Psychiatry, 16 : 313, Nov. 1953.
4. Lin, T. : Manual of teaching of psychiatry. National Taiwan University Medical College, 1958.
5. Lin, T., Hung, T. P., Chen, C. C., Hsu, T. C., and Chen, K. P. : Clinic. Sci., 18 : 301, May 1959.
6. Lin, T. : Brit. Med. J., 2 : 345, July 1960.

LIMITATIONS OF MEDICAL TRADITIONS ON COMMUNITY MENTAL HEALTH PROGRAMS¹

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Adolf Meyer, in 1913, in addressing the International Congress of Medicine in London(1), declared :

The characteristic traits of a clinic for mental diseases according to my conception should be, first, service to the patient rather than to an administrative system ; second, elaboration of the study of the diseases rather than of means of wholesale handling of patients ; third, possibilities of following up the studies of nature's experiments beyond the hospital period, and preventive work through extramural efforts outside of the hospital . . . [and further] . . . I consider it of the greatest importance that the clinic may itself be responsible for the mental health work of a fairly well circumscribed unit of population so as to make possible studies of the social situation and of the dynamic factors which lead to the occurrence of mental derangement which must be attacked for purposes of prevention.

His words of a half century ago have much in common with the viewpoints that gave rise to the Columbia-Washington Heights Community Mental Health Project. The Project, now in its third year, has established a local community surrounding the Columbia-Presbyterian Medical Center as a laboratory for long term, intensive studies of mental health procedures, therapy and epidemiology of mental health by a university Department of Psychiatry and School of Public Health. The project's aims have been to survey and characterize this urban community as a basis for coordinated community mental health studies. The approach is based on the conviction that knowledge of community life and mental health needs, resources and attitudes is essential to the evaluation and

improvement over the years of preventive, therapeutic and rehabilitative services.

In establishing this project, the interest extended beyond the evolution of epidemiologic methods or studies of prevalence, although it was hoped that such would come too in the course of the work. Surveys are available from this country and abroad that provide fairly consistent minimal rates on the prevalence of the psychoses in a population, in contrast to almost complete absence of figures on incidence. Existent reports on prevalence with respect to the psychoneuroses and personality disturbances, however, reveal wide discrepancies ranging from estimates derived by house surveys, such as that of the Eastern Health District(2) in Baltimore some years ago, to reports from the Rennie studies of Midtown (3, 4), and the Leighton studies of Stirling County(5, 6). The sources of these discrepancies call for explanations that demand more sophisticated epidemiologic methods than are now available in the reporting systems developed in the field of psychiatry.

The vexing problems of our specialty which give rise to part of these discrepancies include the lack of uniform definitions for mental illness and mental health, insufficient data with which to examine and differentiate changes brought about by either the environment or treatment, and inadequately developed techniques for needed data-collection. Without the solution of these problems and the accumulation of sound information, it remains dubious that assessment of change through therapy can be effectively estimated. Thus, how can changes in patients be assessed without studying their social adaptation before, during and after treatment over periods of time? Need we not inquire into the epidemic effect of the patient's illness in his community? (The significance of the last question is exemplified by such findings as that 10% of the children seen in the Domestic Relations

¹ Read at the 116th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1960.

² From the Department of Psychiatry and the School of Public Health and Administrative Medicine, Columbia University, New York City.

Court of New York for problems of delinquency have one or both parents schizophrenic and that many of these parents have been in a mental hospital or in psychiatric treatment(7)).

The Columbia-Washington Heights Community Mental Health Project, grew out of concern with such questions. Its inception coincided with organizational changes in both the Department of Psychiatry and the School of Public Health and Administrative Medicine, brought about in part by the conviction that facilities and personnel of each should be rearranged in order to bear directly upon the service functions needed in the community and ultimately upon the training and research activities of both departments. Thus, the united energies of both departments might be turned to a series of systematic and intensive studies of various therapeutic techniques or mental health measures which would be examined against a known background of mental disturbance within a discrete population group and in the light of knowledge of the socio-cultural conditions in the area.

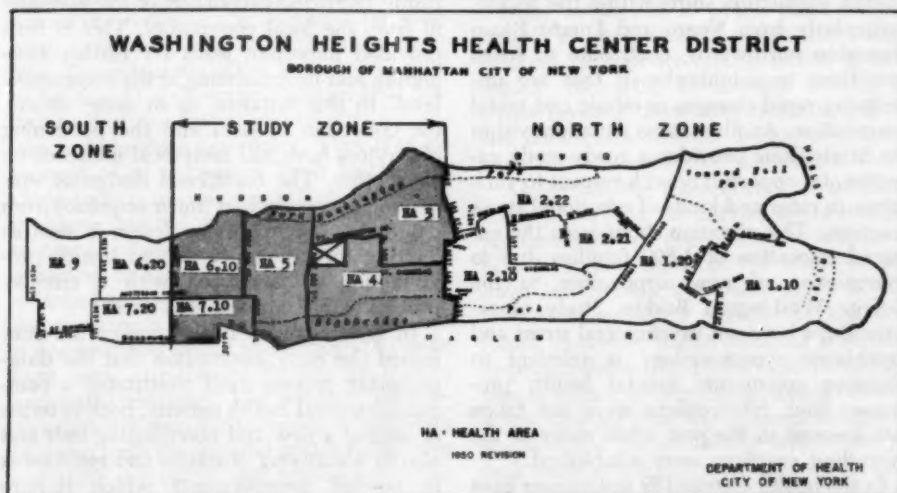
A small basic interprofessional staff has collected and analyzed demographic, sociological and historical data, and established a register of patients in the area which so far includes about 7,000 individuals. A master sampling study of 6,000 households is in

process which will enable the finding of patients not known to the medical profession or community agencies. Investigation is under way of community attitudes to mental health and illness and identification of potential leaders for community mental health programs. The project's staff has been drawn from the fields of psychiatry, public health, social psychology and psychiatric social work, with intermittent and part-time staff from biostatistics, political science and anthropology.³

The Washington Heights Health District has a population of approximately 281,000. Although this entire District is in the area of Project interest (in broad terms), a "Study Zone" has been demarcated within it as a unit of more manageable size for intensive study (see map). The "Study Zone," which immediately surrounds the Medical Center, contains a population of approximately 108,000, of diverse ethnic composition. The "Study Zone" cuts through two of the three traditional communities of the Washington Heights Health District and

³ Continuous assistance has been available from the research, teaching and clinical personnel at the Medical Center; we are especially indebted to Drs. Jack Elinson and Ernest Gruenberg for their sustained and close consultation. An advisory planning group from within the University has also provided valuable counsel.

Columbia - Washington Heights Community Mental Health Project: The District, Zones and Health Areas



is not a community in the customary sense of the word; that is, a collection of people with mutual interests and contacts. Most of the area is residential with supporting shopping centers. The population of the southern area (Hamilton Grange), is predominantly Negro and Puerto Rican. The mid-area (Washington Heights) radiates out from a trade center, with some of its leadership living outside the area. Its population is mainly Jewish and second generation Irish Catholic, with some whose background is Puerto Rican, or of Greek, Italian or other nationality. The population of the northern area (Inwood), most recently developed, is about evenly divided between Jews and mainly Irish descent Catholics, with a few Protestants, the majority of German background. Lower middle and working class groups are more prevalent than middle and upper-middle class groups for the area as a whole, in which a wide range of economic circumstances are found.

The demographic data point up a number of conditions conducive to stress. For instance, the population of the southern area, almost completely Negro and Puerto Rican, pays a median rent equivalent to that of the populations in the northern and middle areas for housing that is the most dilapidated. However, these Negro and Puerto Ricans received a lower income per capita, although their educational level closely approaches that of the other two population groups. Population shifts within the region, particularly from Negro and Puerto Rican expansion northwards, contribute to stress conditions in neighborhoods that are undergoing rapid changes in ethnic and racial composition. Another stress situation within the Study Zone provides a ready-made experimental opportunity with respect to variations in rates and kinds of emotional stress reactions. This situation stems from the enforced relocation of 1,800 families due to construction of new approaches to the George Washington Bridge. Study of relationships between psychosocial stress and psychiatric symptomatology is relevant to planning community mental health programs. Such relationships were not taken into account in the past when many of the prevailing practices were established.

In the health district 189 institutions have

been identified that have some potential or actual relation to mental health services. These include health, educational and welfare facilities but not the 335 or so local physicians, with whom we are also attempting to establish cooperative contact. Within the Medical Center itself, an imposing list of specialized personnel and facilities give service of various kinds. In spite of this richness of resources, it has become clear that their effectiveness in operation is impeded by several factors. Traditional isolation of the various groups from each other often has prevented the flexible movement of patients from one unit to another in terms of their treatment needs. Such isolation has hindered the use of consultative services even when these are clinically indicated and available.

Existing personnel and psychiatric facilities are so organized that they often fail to serve local community mental health needs. For example, when the project started, only 2% of the annual admissions to the specialized psychiatric hospital came from the local community. All other patients requiring psychiatric hospitalization, whether from the other medical center units or elsewhere, had to seek aid at the city receiving hospital 150 city blocks away. Thus, the project study of organizational structure led to revised psychiatric admission policy in the medical center psychiatric units which has led to provision of service for a significantly increased proportion of the mentally ill from the local community. This in turn provided important leads for further fact-finding and programming at the community level. In this instance, as in many others, the collection of data and the patterning of services have had reciprocal influence on each other. The traditional design of epidemiologic research as linear sequence from data-gathering to service-design is seen as limiting to community mental health programming as compared with a circular process with reciprocal feed-back.

In general, work in the project has confirmed the early assumption that the data-gathering process itself constituted a community mental health activity, both in terms of adding a new and contributing unit and also in identifying obstacles and resistances to needed improvements which require

problem-solving. It was predicted that involvement of medical and nonmedical community leadership in data-gathering would help to stimulate the much needed assumption of responsibility and accountability by the community for care of its emotionally disturbed members. Interchanges for seeking information have the potential for increasing the recognition of mental illness and emotional maladjustment in the community as well as cooperation, communication and collaboration with other community groups for its alleviation. For example, some pilot interviews were undertaken with private practitioners in the area as a step towards completing the count of psychiatric patients in the Study Zone. Although these interviews centered on devising acceptable questionnaire forms, they also provided channels of communication in which the physicians' feelings about the local medical center, including complaints, were aired and explored, misunderstandings clarified, and constructive criticisms provided cues for needed improvement in medical center services. An appropriate referral by a previously hostile physician to Vanderbilt Clinic following such an interview illustrates how better communication achieved in data-gathering improves collaborative service to patients.

On the other hand, some of the barriers to data-collection which have been encountered, impede ascertaining the extent and nature of need which is necessary for planning, organizing and coordinating of services. These barriers often have been found to be due to well entrenched medical traditions that are inappropriate now for advances in modern psychiatry. They may be thought of as outmoded. Such barriers include certain recording practices as well as problems related to confidentiality. With respect to recording: the information that is recorded or fails to be recorded by psychiatric facilities, general hospitals and various agencies is determined mainly by what is deemed most useful and important (aside from such non-clinical factors as budget and staff pressures). The inpatient philosophy that still puts low value on coordination between units for pre- and post-hospital care and their preventive and rehabilitative potentials leads many inpatient psychiatric

facilities to neglect such data in their records. In general hospitals, traditionally lower prestige accorded to outpatient departments contributes to relatively lax record room procedures for outpatient charts. Since the greatest number of psychiatric patients (and also those seen at the most crucial phases of their disorders) are outpatients, such laxity limits both the research and service uses of these records. Furthermore, due to the tradition whereby somatic illness continues to hold higher scientific and moral status than psychiatric disorders, considerable reluctance was found in this study by general hospitals' record rooms to include recordings of primary or secondary psychiatric diagnoses even when such had been made on patients seen on medical and surgical wards. In many psychiatric, social and educational settings, the uneven and inadequate recording of relevant social and psychological data, seems due to traditional narrowness of professional focus by the respective disciplines established before the development and acceptance of such concepts as total personality and comprehensive psychiatry.

Another tradition-linked source of error arises from trying to circumvent anachronistic legislative and administrative policies through the choice of diagnosis to be recorded. Although this may be motivated by well-intentioned therapeutic expediency, such diagnostic manipulation creates obvious confusions and dangers and is scientifically untenable. It would seem far preferable to apply current psychiatric insight through appropriate change-inducing techniques, including community action, towards revising those long-standing policies and laws which obstruct the carrying out of clinically indicated case disposition.

As regards the maintenance of confidentiality of records, the authors are committed professionally to the ethical principles of protecting patients from the abuse of personal information they have given in confidence to qualified persons. It has been found, however, that traditional reluctance impedes release of such psychiatric information as names, addresses and diagnoses even when rigorous legal and research safeguards are in force. Indiscriminate withholding of such information seriously hampers the pooling of data essential for planning, utilization

and evaluation of community services. In determining the patient population of the area, the project benefited by valuable cooperation with the statistical office of the Department of Mental Hygiene, the New York City Community Mental Health Board, Manhattan After-Care Clinic, and the record room and various special units of the Presbyterian Hospital of New York. Initial efforts to obtain data from the smaller hospitals in the area and from various governmental departments have been hampered by fears of law suits, voiding of liability insurance or increase in the rates of such insurance. Yet the Medical Practices Act of the State of New York specifically allows release of such information for research purposes. The project staff has met with administrators of hospitals serving Washington Heights residents, representatives of the Board of Education and heads of private and public agencies, to explain and reassure them as to our scientific aims and safeguards with respect to needed data. Such conferences also have served to improve communication towards needed collaborators, coordination in the treatment of the area's patients.

Entrenched patterns of autonomy and isolation on the part of hospitals, clinics and agencies with respect to each other contribute to an antitherapeutic fractionation of patient care. Many longstanding organizational patterns which derive from overlapping governmental units and systems of patient referral disregard continuity of care. The splintering of services between the local voluntary hospitals and clinics, the city hospital, the state hospitals and after-care clinics and agencies, fails to allow the establish-

ment of the major psychodynamic factor needed for the treatment of many psychiatric patients; *i.e.*, a sustained and consistent therapeutic contact with a single physician or his representative institution, who is also knowledgeable about the patient's family and community environment. It was found, for example, that 33 different hospitals and schools took care of 636 patients from the Study Zone population of 108,000 in one year and also that patients from this small metropolitan area for the most part were distributed among nine State hospitals scattered over an area extending to a peripheral distance of eighty miles (Table 1). Hospitalization at long distances from home markedly reduces helpful contacts between the patient and his local community. Visits by relatives and social workers become difficult and the hospital staff must rely on transmitted information from a multitude of distant agencies which cannot provide the intimate type of professional or family contact so important for the patient's posthospital readjustment in the community.

Since it has been repeatedly demonstrated that the readjustment of many hospitalized patients is improved by working concomitantly with their families, the extent to which this has not yet been translated into practice generally, exemplifies the many lags between existent clinical understanding of individual patients and its application at the collective level of patient care, where the relative inflexibility of tradition is greater. Psychological mechanisms of isolation and compartmentalizing on the part of the general public and the mental health professions would seem to contribute to this inertia for maintaining the procedural

TABLE 1
Washington Heights Residents Admitted to Records of
State Department of Mental Hygiene
April 1, 1956 - March 31, 1957

TYPE OF INSTITUTION	NUMBER OF INSTITUTIONS REPORTING			PERSONS ADMITTED		
	STATE	PRIVATE	TOTAL	STATE	PRIVATE	TOTAL
Hospitals	13	14	27	469	139	608
Schools	4	2	6	25	3	28
Total	17	16	33	494	142	636

status-quo for patients *en masse*, which curtails their benefits from advances in psychiatry. (As referred to above, the project is investigating attitudes towards community mental health programs; the results will be reported separately).

Psychiatric services in general hospitals, especially when closely related to teaching and research activities, are key components of the community's psychiatric resources. Yet, certain traditions that shape many features of general hospital organizational structure, which developed in relation to physical care, are detrimental to psychiatric practice and may seriously limit effective psychiatric treatment in this propitious setting. Traditionally, for example, inpatient services which care for the physically sicker and more complicated patients, receive for their staff the most highly qualified physicians and provide for these men higher professional prestige than outpatient departments where less experienced physicians are usually assigned. But for community oriented psychiatry, the outpatient department demands primary importance and requires high levels of professional expertise.

In studying the general admission process to the outpatient department of the local medical center (a general hospital), it was found that of the 450 new patients registering daily, 80 were seen for only the single brief visit and returned home. A follow-up study of these patients has revealed that a high proportion suffered from some form of psychiatric illness which went undetected or ignored during the clinic admission procedure.

In thinking of the process of acceptance of patients for outpatient treatment in the large teaching centers, it appears that the traditional assignment of a medical or surgical intern with minimal psychiatric background as hospital admissions officer results often in his inability to recognize psychiatric problems as such, to make adequate referrals, or to manage the problem himself. For the most part, those patients that he does refer to the psychiatric clinic have gross disturbances while the subtle indications of early illness are missed. In actuality, initial screening and early disposition requires highly specialized skill and, of course, has crucial relevance to early case finding and

appropriate use of existing facilities. Thus, the assignment of the most junior physicians as admitting and emergency officers, a tradition with some logical basis in relation to physical illness, proves detrimental with respect to care of psychiatric illness. (The intern serving as admitting officer for the physically sick is apt to refer problems of serious nature into the hospital rather than assume responsibility for their referral or care, thereby providing a factor of safety for such a patient.)

In the larger teaching centers, also, admitting interns are influenced by their conception of "the good case," as indicated to them by their senior inpatient instructors. Such interns, however, are often uninstructed relative to the personality disorders and unable to estimate the ultimate consequences to the patient of how they refer or fail to refer. Many psychiatric cases are seen as a nuisance unless critically upset, to be sent home or referred back to the local physician or hospital whose inability to provide appropriate and needed treatment caused the patient to seek admission to the medical center in the first place.⁴

Comparable shortcomings were found through a follow-up study of 38 children who had been referred for psychological testing by the pediatric service. The care that had been given was evaluated as satisfactory in but 7 of the 38 cases. Only 10 out of 32 recommendations for 23 of these cases had been carried out. Traditional patterns of organization, rotation of responsibility and poor interdepartmental communication within the medical center accounted for these findings in part, while others seemed due to deficiencies of collaboration between the hospital and the schools and agencies in the community. There is basis to assume that those kinds of problems are typical for other large urban hospitals and clinics.

Four hundred and sixty-nine patients from Washington Heights were admitted to the psychiatric service at Bellevue Hospital (the city receiving hospital) during one

⁴ This is not to be misconstrued as unjust criticism of interns, who are themselves caught up in these problems. Documentation will be made available through a separate report of our follow-up studies of patients who were turned away during the admission process.

year. Of these, about 40% were transferred to State hospitals. By study of the records of the remaining 60%, the evidence seems to point to serious gaps in the local network of facilities, as well as to weaknesses in community patterns of initial screening, referral practices and discharge planning. For many of these patients, admission to city hospital reflects poor clinical use of more suitable community alternatives. Not only may this inflict damaging trauma, but reduce ultimate treatability. For others in this group of patients, the Bellevue admission occurred because more appropriate community resources were lacking. Thus, about 43% of the cases returned to the community were associated with alcoholic intoxication. Facilities for the care of addictive personalities, whether associated with the use of alcohol or narcotics, are quite inadequate. This inadequacy has been perpetuated by traditional attitudes of moral condemnation towards the addicted; even the professional community has shared these prevailing attitudes, to the detriment of its clinical objectivity.

SUMMARY

A series of entrenched medical traditions has been recognized as obstructive for the development of effective mental health practices and the on-going assessments of patient care. Traditional patterns of isolation within and between medical and non-medical facilities of the community's resources contribute to maintenance of weak patterns of coordination, communication and fulfillment of responsibility with consequent antitherapeutic fractionation, discontinuity and inflexibility of services. Some organizational traditions in state hospital systems, such as distance from the patient's home and poor liaison with other community facilities, impede postdischarge readjustment. In general hospitals the old tradition of placing those with greater professional experience on inpatient services which led to enhancement of their prestige is detrimental to the growth and strengthening of the admissions office and the outpatient departments which have major importance for community mental health programs and require high levels of pro-

fessional expertness. These factors are reflected in traditional organizational features of general hospitals, and influence staffing patterns and admissions procedures and policies that are now adverse to early detection and treatment of psychiatric illness. They lead to incomplete and inaccurate recording of psychiatric diagnoses and minimal attention to outpatient charts. By identifying these traditions and the obstacles they raise, it is hoped that appropriate revisions come about which will lead to more effective patient care.

BIBLIOGRAPHY

1. Meyer, A.: *The Aims of a Psychiatric Clinic*. Trans., Int. Congress of Medicine. London, 1913, Sec. 12, pp. 1, 2 and 9.
2. Lemkau, P. V., Tietze, C., and Cooper, M.: *Summary of Statistical Studies on the Prevalence and Incidence of Mental Disorder in Sample Populations*. Public Health Reports, Vol. 5, No. 53 (December 31, 1943), pp. 1909-1927.
3. Rennie, T. A. C., and Srole, L.: *Psychosom. Med.*, 18: 449, Nov.-Dec. 1956.
4. Rennie, T. A. C., Srole, L., Oper, M. K., and Langner, T. S.: *Am. J. Psychiat.*, 113: 831, March 1957.
5. Leighton, A. H.: *My Name Is Legion*. N. Y.: Basic Books, 1959.
6. Leighton, D. C.: *Am. J. Psychiat.*, 112: 716, 1956.
7. Rittwag, M.: *Sins of Their Fathers*. Boston: Houghton, Mifflin Co., 1954, p. 42.

DISCUSSION

CURTIS G. SOUTHWARD, M.D. (Bethesda, Md.).—This Project is pilot and exploratory in nature. Its goals incorporate many of the new and progressive concepts about community care and treatment of the mentally ill. Mental health services are combined with training and research in a community setting, a program which ought to be more common throughout the country. The authors give convincing evidence of the reciprocal feedback between data gathering and service design which is vital to the development of program. This should remind us that data gathering should not be considered a nuisance but as a continuing part of the effort necessary to effect change to meet community needs. Of course, budget and staff must be provided to make this possible.

The Project seems to be focused primarily upon the mentally ill. Preventive and promotional services, public health activities which reach the mass of the population, the healthy

as well as the sick, are lacking. However, mention was made of social and economic pressures in the community which might cause mental illness. Undoubtedly information and communication provided by the program as presently focused would be of great value for developing a preventive program later. If this is done, I believe that a completely new set of reference points in the community will be needed and that professional staff other than clinicians will be active participants.

From the administrative, organizational point of view, if the project is to be regarded as a demonstration of community mental health programming for other communities, many public health personnel would raise questions about locating the central core of a community mental health program in a hospital.

Also I'm not sure to what extent a neighborhood or a part of a neighborhood in a large city can be considered as a "community." In a place like New York City, which is overwhelming in its size and complexity, perhaps the neighborhood approach may be compared to the attempts to divide a large mental hospital into several smaller, quasi-independent hospitals of manageable size.

The Project experience thus far indicates that certain traditions limit mental health programs. I wish the authors had had more time so that the second section of the paper on the limitations of medical traditions could have been discussed in more detail. Each tradition by itself could form the basis for a separate paper. In relation to the brief statement on confidentiality, for example, I would have liked to have the following points reviewed: What is the history of the development of this tradition? What purposes does it serve? How seriously does this tradition interfere with research or the planning of community health services? To what extent is the experience in the Washington Heights area typical of other parts of the country? If the tradition should be changed, what changes are needed?

The tradition of maintaining confidentiality seems to have been a significant hindrance to the study and probably will be less amenable to change than other traditions. Perhaps the tradition of maintaining confidentiality need not be changed but a better understanding of the permissible use of records should be encouraged.

To my mind the most significant obstacles described were the isolation, lack of coordination and communication in the community's mental health facilities. This is a nationwide and not just a medical problem. It is a basic

problem of the organizations of our society which results in part from the increasing complexity and specialization of our activities, from urbanization, and from the massive growth of our population.

The admission service for hospitals as it affects psychiatric referrals is emphasized in this paper. I think some considerations were omitted which could lead to erroneous conclusions on this subject. Having an intern as admission officer was properly referred to as a problem and I would agree that it may be a costly procedure for both patient and hospital. However, data were cited to indicate that the intern is more accurate in his somatic diagnoses and referrals than in psychiatric cases. Granted that the intern may not have had sufficient psychiatric training and experience, I doubt if the problem results entirely from these lacks. The intern may know that the outpatient department and hospital are crowded and only the seriously mentally ill would receive attention. He may be very well aware that a psychiatric referral involves a lot more than sending a note to E.N.T. that a patient needs care for a cinder in his eye. Also there is the matter of acceptance of the illness and of the referral by the patient and his family plus the feelings of the intern about directing patients to a psychiatrist, which is difficult even for many experienced physicians.

The lack of proper facilities for early treatment and follow-up of cases treated at Bellevue appears to illustrate a critical problem which is common throughout the country. I am optimistic that this Project will go a long way towards solving it in the Washington Heights area of New York City.

Despite the limitations of medical traditions, the authors appear to have made marked progress in putting their program in operation. Examples were given which indicate that medical staff can change. We could speculate that change will take place readily if the administrative machinery will allow it and if personnel are kept abreast of new findings.

In closing, I would like to point out that the authors have tackled what many health authorities believe is the biggest problem facing psychiatry and public health today; that is developing adequate facilities, properly utilized, to carry out a comprehensive mental health program for prevention and treatment of mental illness. There are only a few projects of this nature in this country—there should be more. I congratulate the authors on the fine beginning they have made and I am sure that program directors throughout the country will follow their work closely.

EFFECTS OF CHEMICAL STIMULATION TO DISCRETE BRAIN AREAS^{1, 2}

ROBERT G. HEATH, M.D., AND FLORIS de BALBIAN VERSTER, Ph.D.^{3, 4}

In this report, we describe some of our findings concerning the effects of stimulation, by a number of chemicals, to discrete brain regions, and the techniques which we have developed for the procedure. Data to be presented were obtained from studies with cats, monkeys and human subjects. Most of the studies were conducted with monkeys; brief references will be made to pertinent data from our cat studies. Human data will be included in regard to subjective reporting immediately following the chemical stimulation where they will clarify some of the objective findings with monkeys. We plan to report our human data in detail after sufficient time has elapsed for adequate follow-up studies.

This method of investigation and treatment has evolved as an extension of our subcortical electrode studies and, in each instance, has been employed in conjunction with chronically implanted cortical and subcortical electrodes.

MATERIAL AND METHOD

Seventeen (17) Rhesus monkeys were employed in this study. Techniques were improved throughout the period of the study. The chemicals were introduced into precise, intracerebral regions through modified hypodermic needles and through specially constructed perfusion cannulas (to be described) for intracerebral stimulation. The modified stereotaxic apparatus was employed with air encephalography for the placement of the electrodes and the needles or cannulas. (A minor modification of our implantation technique for chronic electrodes⁽¹⁾ is necessary for cannula implanta-

tion.) Each needle or cannula was implanted through a small trephine hole and fixed at the bone. Quick-hardening dental cement was used to fix the needles in position and a special plastic plug was designed to fix the perfusion cannula. In our earlier studies with animals (15 cats, 12 monkeys), the needles were placed in widely dispersed nuclear masses; in the later animal studies (2 cats, 5 monkeys), placements were into the septal region and the hippocampus because these areas were the most sensitive to the chemicals employed. In the 2 human subjects (one, a post-encephalitic brain syndrome; the other, a chronic, catatonic schizophrenic), cannulas were implanted into the septal region bilaterally. In addition, cannulas were implanted in both hippocampal regions of one human subject, and in one hippocampal region in the other human subject (Figure 1). In the animals and in the human subjects, electrodes were implanted in specific, subcortical nuclear regions, and over the cortex with the technique previously described⁽¹⁾.

No animal was employed in the study until a minimum of 7 days had elapsed following implantation of the electrodes and cannulas or needles. During the first 7 days following operation, artifacts consequent to the surgical procedure are present. Each animal was used on a number of occasions. At the conclusion of the study, the valves or needles were checked for patency and localization with a small amount of opaque media (Urokon Sodium Sterile Solution 70%, Mallinckrodt). The animal was then sacrificed, and the brain sectioned and stained with Kluver's Combined Stain. The sites of electrode implantation were ascertained, and the sites of injection examined for possible cellular damage.

In 3 instances, when the modified hypodermic needles were employed, there were complicating abscesses around one of the needle tracts. All data obtained from these animals were discarded from the study.

¹ Read at the 116th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1960.

² Supported by grant-in-aid from the Commonwealth Fund.

³ Tulane University School of Medicine, New Orleans, La.

⁴ With the technical assistance of Charles Fontana and Stanley John.

FIGURE 1

Lateral and Anterior-posterior X-rays of Skull of Human Subject (R.D.) Showing Cannulas in Septal Region and in each Hippocampus and Numerous Subcortical and Cortical Electrodes. The Wavy, Opaque Lines in the Vicinity of Sella Turcica are Opaque Markings in the Gauze Employed in the Operation

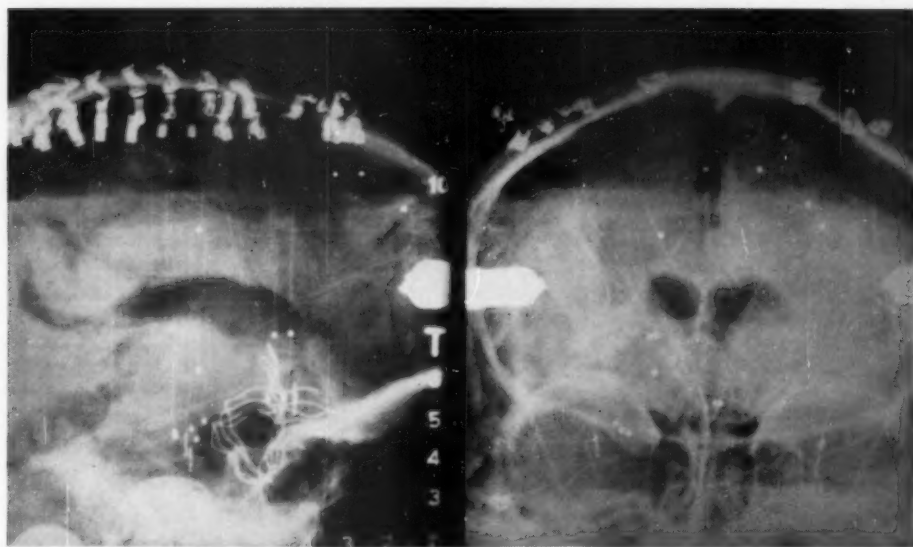
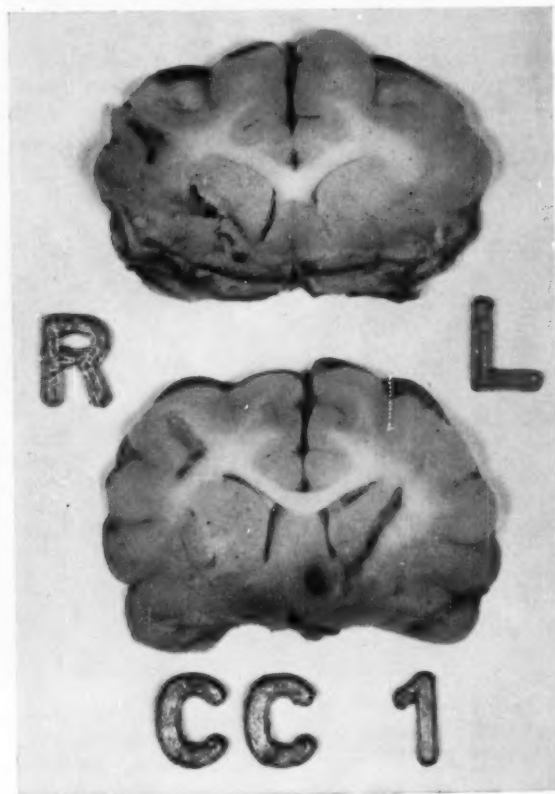


FIGURE 4

Section of Cat Brain Showing Sites of Injection of Septal Extract



A Perfusion Cannula for Intracerebral Microinjections: This device is adapted for use with the stereotaxic instrument and consists of a valve to which is attached a length of polyethylene tubing. Our procedure for implanting subcortical electrodes(1), with minor modifications, is employed for placing the subcortical valves. This procedure eliminates the shortcomings of our earlier techniques and meets the following essential criteria for an effective method.

1. *Localization.* It must be possible to inject exactly into a predetermined target area. Fixation methods must be such that the device remains accurately in place for prolonged periods.

2. *Minimal destruction of brain tissue.* The device should be of relatively small diameter. It also should be flexible to eliminate damage from pulsation of the brain.

3. *Asepsis.* The device must be designed and implanted in a manner to eliminate pathways for the entry of bacteria into the brain.

4. *Flushing.* In order that cross-contamination of one compound with another does not occur, the device must provide a method of flushing without entry of the flushed material into the brain.

5. *Volumetric accuracy.* Provision must be made for delivery of accurate volume at the tip of the cannula.

Details of the construction of the perfusion cannula have been presented elsewhere (2). Basically, the cannula consists of a small polyethylene tube inside of a larger tube (#PE-10 and #PE-60) with a reservoir and valve system at the intracerebral

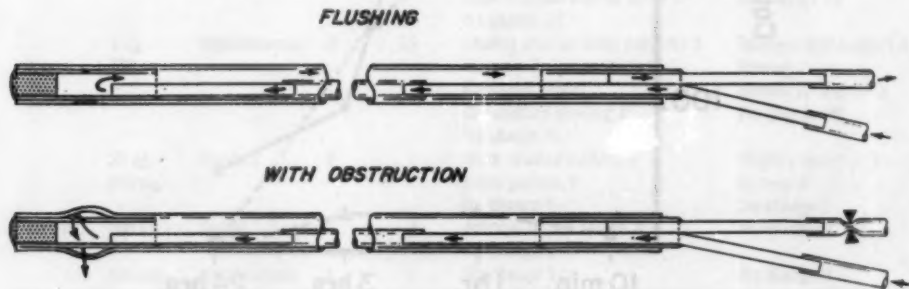
end. The terminal, i.e., intracerebral end, is attached to a specially designed valve. The inner polyethylene tube is the inlet and the larger tube serves as an outlet. After flushing, the outlet tube is clamped, and the injection of a micro amount of fluid then causes the valve to open (Figure 2). The cannula is fixed to the bone by a specially designed Lucite plug. This plug also fixes the intracerebral electrodes into position(2).

The maximum quantity of solution injected into the brain substances, with our earlier techniques employing the needles, was 0.1 ml. With the development of the perfusion cannula and, thereby, greater control of volumetric accuracy, the quantity of solution injected did not exceed 0.02 ml., and, generally, ranged between 0.01 ml. and 0.02 ml.

A number of basic studies were carried out with animals to check the various aspects of this technique. To ascertain the period of time that the injected compounds remained in the brain, radioisotopic histamine was injected through the chronically implanted needles into the brains of cats. The animals were sacrificed at regular intervals following injection and the brains homogenized and analyzed for isotope content. As shown in Figure 3, the level of the chemical in the brain remained relatively constant for a period of 2 to 3 hours following injection; then, was rapidly eliminated. When the chemical was injected into the ventricle and sub-dural space, it was eliminated rapidly from the brain. We have noted that when histamine, one of the

FIGURE 2

Schematic Diagram Illustrating the Mechanism of Action of the Intracerebral Cannula



chemicals employed in these studies, produced a physiological effect, as indicated by subcortical electrical recordings, the physiological changes persisted for approximately the same length of time as the chemicals remained in the brain, as ascertained by radioisotopic studies.

Studies have been reported (3) to suggest that inorganic compounds, which become incorporated into the tissues when injected into the brain, remain for very prolonged periods, i.e., up to several months. In our studies, we employed only organic compounds which are metabolized and excreted.

RESULTS

The chemicals which were tested in the monkeys are listed in Table 1. The com-

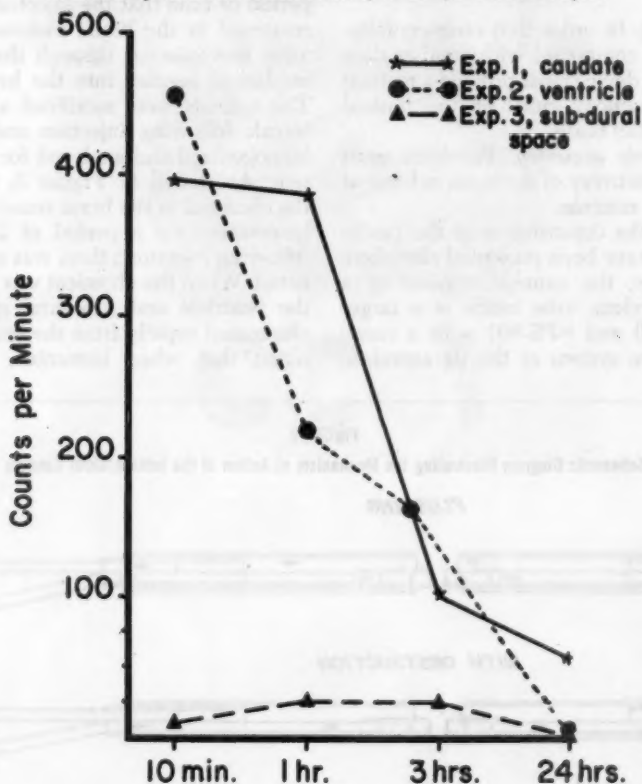
TABLE 1
List of Compounds Given by Intracerebral Injections
(Active Compounds are Capitalized)

Acetylcholine	Manganous chloride
ATROPINE	IPRONIAZID
d-Amphetamine	Isoniazid
Diamine oxidase	PHENOBARBITAL
EPINEPHRINE	Potassium
Gamma-amino-butyric acid	Saline
HISTAMINE	Sodium chloride
l-Isoleucine	Serotonin
Kabi 888	SEPTAL EXTRACT
l-Leucine	Tyrosine solution
LEVARTERENOL	Valine
d-LYSERGIC ACID DIETHYLAMIDE	

pounds which induced a change in behavior or in the electrical recordings are shown in capital letters. A significant observation,

FIGURE 3

Graph Depicting the Rate of Disappearance of Radioactive Histamine from Cat Brain with Injections into Caudate Nucleus, Ventricle, and Sub-dural Space



in reviewing the over-all chart, is that so few compounds with established neurochemical action peripherally induced changes in recordings or behavior.

Unquestionable behavioral changes which, invariably, were associated with significant alterations in recordings, appeared only when chemicals were injected into the septal region and hippocampus. No significant alterations in behavior were induced by injection into other subcortical nuclear masses which included the caudate nucleus, the hypothalamus, and the putamen. For this reason, in our later studies, we confined the placement of our limited number of cannulas to the septal region and the hippocampus. In a few instances, alterations in recordings were definite with no observable behavioral changes in the monkeys.

Regional Localization of Responses to Chemical Stimulation: Our studies suggested that the regions where chemical stimulation induced changes in behavior and recordings were well circumscribed. Injection into a region only 2 or 3 millimeters removed from a very active site often induced no change. The cross-section of the brain of a cat employed in one study illustrates this phenomenon (Figure 4); this was an unfriendly, uncooperative cat. Septal extract,⁵ when injected into the left septal region at the site indicated in Figure 4, immediately induced a mild catatonic picture followed by purring and placidity in the animal which persisted for 30 minutes. Injection of the same amount

⁵ This extract consisted of bovine septal tissues digested with commercial trypsin.

TABLE 2
Active Intracerebral Compounds

COMPOUND	DOSE RANGE	REGION	NO. OF ANIMALS	NO. OF INJECTIONS	EEG	BEHAVIOR
SEPTAL EXTRACT	0.4 units -	Septal	4	8	Septal area seizure 4	Dazed 3
	0.8 units				Sub-clinical seizure activity 1	Agitated, flushed 3
					18-20 cps activity 1	No change 2
					No change 2	
HISTAMINE	0.4 units -	Hippocampus	3	3	Hippocampal seizure activity 2	Frightened, agitated 2
	0.8 units				No change 1	No change 1
	0.4 units -	Hypothalamus	2	3	Sleep patterns 1	Drowsy 1
	0.8 units				No change 2	No change 2
	5 ug. -	Septal	10	33	Slowing and spiking activity 5	Posturing, catatonic 7
	200 ug.				Varying degrees of slowing 12	Mildly out-of-contact 5
					Flattened record 2	Reduced activity 3
					High amplitude alpha-like waves 1	More active 2
					Drowsy and/or sleep patterns 2	No change 16
					No change 11	
	5 ug. -	Hippocampus	7	20	Seizure activity 3	Dazed & inappropriate during seizure 2
	100 ug.				Increase in fast amplitude 2	Drowsy 2
					Flattened record 1	Somewhat alerted 3
					Sleep patterns 1	No change 13
		Hypothalamus	8	19	High amplitude delta focus 1	
					No change 12	
	5 ug. -				Drowsy and/or sleep patterns 5	Mildly out-of-contact 4
	100 ug.				Increase in low-range beta 1	Drowsy 2
ATROPINE		Caudate	2	7	Flattened record 2	Somewhat alerted 3
					Generalized slowing 2	No change 10
					No change 9	
	20 ug. -	Septal	2	4	More relaxed pattern 1	Slightly agitated 2
	200 ug.				Sleep pattern 1	Drowsy 4
					No change 5	No change 1
	100 ug.	Hippocampus	1	1	Anterior septal spikes 3	No change 4
					No change 1	No change 1
	100 ug.				No change 1	No change 1

of the same septal extract into the right hemisphere at a site 2 millimeters lateral to the septal region, as indicated, did not induce any observable behavioral change. In this animal, the experiment was repeated on 32 occasions on different days with the same result each time.

Effectiveness of Different Compounds: The 3 compounds, in the group we tested, which induced the most intense changes were septal extract, atropine, and histamine (see Table 2). The injection of septal extract and atropine almost invariably induced changes. The response to histamine was less consistent: on some occasions, it was followed by marked change; on other occasions, by minimal change; on still other occasions, by no change. Variable

responses occurred with the injection of epinephrine, iproniazid, d-LSD, and levartenerol (see Table 3).

With septal extract, behavioral changes were most marked with injections into the septal region, and somewhat less intense with stimulation to the hippocampus. The monkeys became more placid, stopped biting and scratching when prodded, and seemed generally more content. Profound alterations occurred in electrical recordings (Figure 5), best characterized as seizure activity focal in nature and restricted to the septal region and hippocampus. This activity persisted for long periods, the most extreme being 3 days of continuous paroxysmal activity followed by intermittent activity of this type for 6 weeks. The short-

TABLE 3
Mildly Active Intracerebral Compounds

COMPOUND	DOSE RANGE	REGION	NO. OF ANIMALS	NO. OF INJECTIONS	EEG	BEHAVIOR
LEVARTERENOL	20 ug.	Septal	3	3	Sleep patterns 1	Slightly docile 1
	200 ug.				No change 2	No change 2
	20 ug.	Hippocampus	3	3	No change 3	No change 3
	200 ug.					
	20 ug.	Hypothalamus	3	3	Relaxed pattern 1	Somulant 1
	200 ug.				No change 2	No change 2
IPRONIAZID	200 ug.	Caudate	1	1	Sleep patterns 1	Sleep 1
	20 ug.	Septal	2	3	Slowing & increase in amplitude 1	No change 3
					Larger runs of beta 1	
					No change 1	
	20 ug.	Hippocampus	2	2	Slight slowing 1	No change 2
					No change 1	
EPINEPHRINE	20 ug.	Hypothalamus	2	2	Slowing & increase in amplitude 1	No change 2
					No change 1	
	10 ug.	Septal	4	6	Sleep patterns 1	Sleep 1
	210 ug.				No change 5	No change 5
	10 ug.	Hippocampus	3	4	Increased beta 1	No change 4
	100 ug.				Sub-clinical seizure activity 1	
d-LYSERGIC ACID DIETHYLAMIDE					No change 2	
	10 ug.	Hypothalamus	4	5	Sleep patterns 1	No change 5
	100 ug.				Increased beta 1	
					No change 3	
	25 ug.	Caudate	2	2	No change 2	No change 2
	100 ug.					
d-LYSERGIC ACID DIETHYLAMIDE	10 ug.	Septal	2	2	Moderate slowing 1	Reduced behavior 1
					No change 1	No change 1
	10 ug.	Hippocampus	2	2	No change 2	Agitated 1
						No change 1
	10 ug.	Hypothalamus	2	2	No change 2	No change 2
	10 ug.	Caudate	1	1	No change 1	Slightly alerted 1

FIGURE 5

Subcortical and Cortical Recordings from Rhesus Monkey Before and Following The Injection of Septal Extract into the Septal region

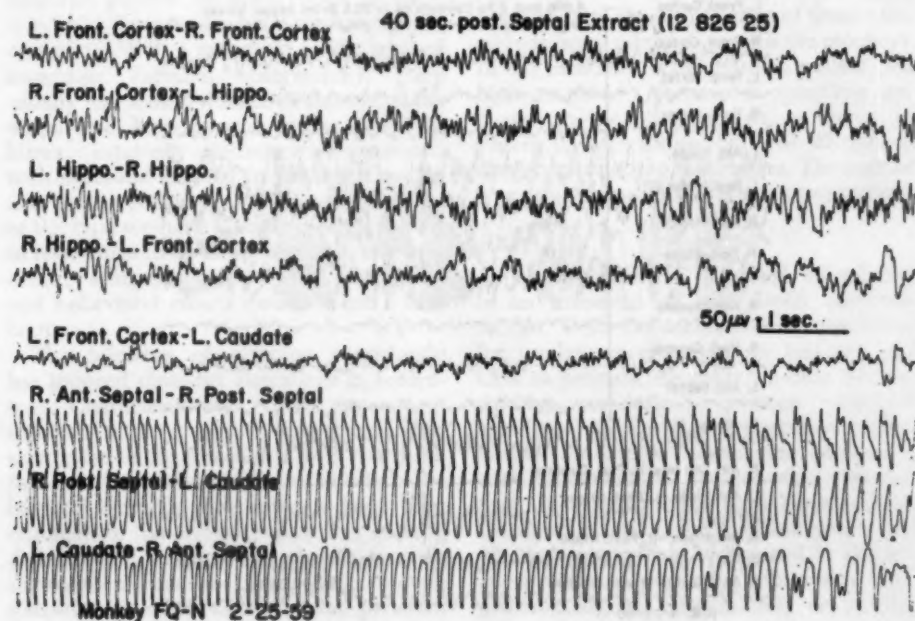
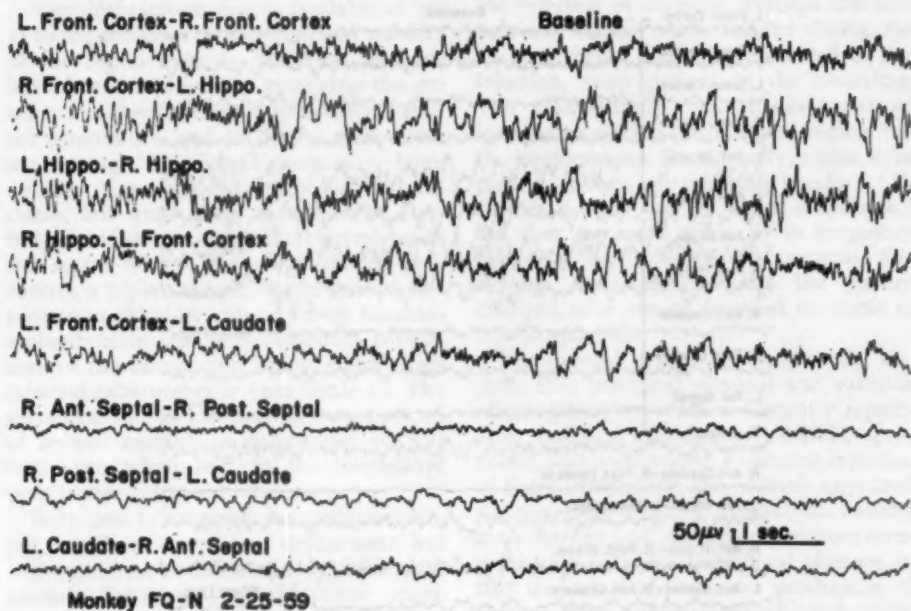
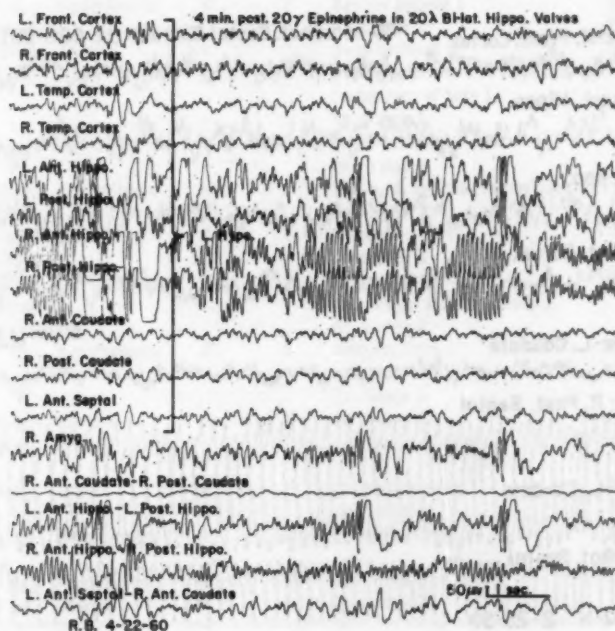
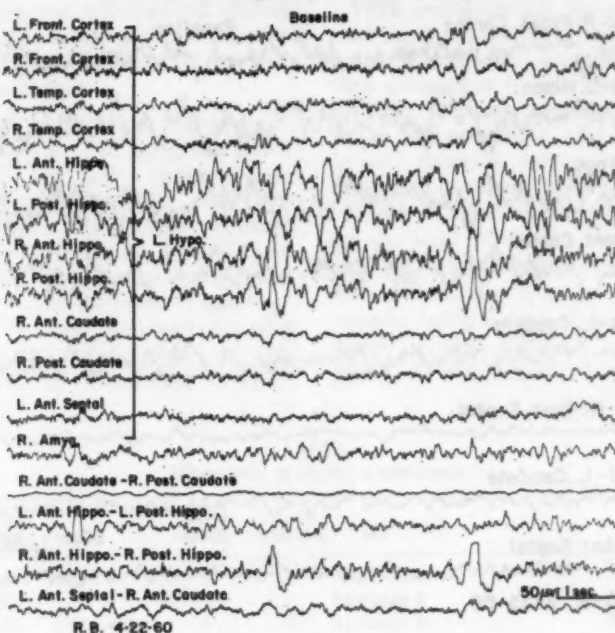


FIGURE 8

Subcortical and Cortical Recordings from Patient, R.B., Before and Following the Injection of Epinephrine into the Hippocampus



est duration of this activity, following injection of active septal extract, was a period of several hours.

Very little information is available as yet as to the chemical composition and stability of the septal extracts. Different methods have been employed in preparing the extracts and there is variability in their chemical composition and in their activity with our testing. The extract contains a large number of amino acids, peptides, and variable, but quite high, quantities of electrolytes. After measuring the electrolytes in the septal extract, we administered, as a control, a triple concentration of sodium and potassium chloride with no effect. Gamma-amino-butyric acid is a consistent constituent of the extract and has no effect when injected intracerebrally (see Table 1). The extracts gradually lose activity over a period of several months, as determined by this test, even when held in the lyophilized state under refrigeration.

Responses to histamine are quite variable, not only from one animal to the next, but with injections on different days in the same animal. Behavioral manifestations range from no change through a mild reduction in the level of awareness to a full-blown catatonic picture. On some occasions, there is a mild increase in beta rhythm on the recording. With a reduction in the level of awareness (clinical observation), there usually was some evidence of slowing in the septal and hippocampal leads. The full-blown, catatonic picture was associated with profound slowing in the septal region and the hippocampus with frequent spikes of the type we have described as appearing in recordings from these regions in our psychotic, schizophrenic patients. Recording and behavioral effects persisted for 1 to 3 hours.

The injection of atropine consistently has induced clear-cut alterations in recordings. Characteristically, there appears, at intervals of 2 to 4 seconds, a broad base slow spike in the recordings from the tissue into which the chemical was injected. Behavioral changes with atropine have been minimal. In the animals, there was nothing definite—only a suggested change towards increased relaxation. Recording changes following injection with atropine persisted

in the animals for 1 to 3 hours. In the human patient with brain damage, very little alteration in behavior was noted with the injection of atropine. Perhaps the subject was slightly more relaxed during the 1½ hour period that spikes, induced by the injection, were present in the recording. The schizophrenic patient developed an increase in spiking in the septal region and the hippocampus. Occasionally, spikes were present in her pre-injection baseline (although sharper, and of higher amplitude), but they increased markedly in frequency following the injection of atropine. She became more agitated and the picture changed from one of retarded catatonic to one of agitation.

The second group of compounds, *i.e.*, those that produced minimal and variable effects which were not consistently repeatable, included epinephrine, d-LSD, iproniazid, and levarterenol. Following injection of these compounds, the animals appeared slightly more relaxed, tended to become more drowsy, and the recordings were commensurate with the behavioral changes in that they showed increased production of alpha activity and background synchronous activity of a sleep pattern. Changes in recordings in the patient with brain damage, with the introduction of these compounds, were minimal, as with the monkeys. In the catatonic, schizophrenic patient, the high amplitude pattern of spindling appeared in the hippocampus, as shown in Figure 6, after the injection of 20 gamma of epinephrine into that region. The patient was relaxed, calm, and more cooperative.

DISCUSSION

The intracerebral chemical stimulation is an extension of our depth electrode studies. With the technique we developed for implanting electrodes in animals, and later in patients, we collected data demonstrating correlations between electrical activity of the brain and alterations in behavior. Significant recordings, correlating with the behavioral changes, were obtained from the septal region and hippocampus. Changing levels of psychological awareness, whether spontaneous or induced by the administration of exogenous substances (*viz.*, pharmacological compounds), or by the

manipulation of interpersonal relationships, were accompanied by predictable recording changes from these regions. These data have been the subject of numerous reports from our laboratories since 1950(4-7). The recording data, along with consideration of the effects of ablation and stimulation of specific subcortical regions in animals, provided the basis for our assumption that electrical stimulation to the septal region might be of therapeutic value in schizophrenic patients.

Since 1950, we have chronically implanted electrodes on 55 occasions in human subjects. All patients received stimulation to discrete, subcortical nuclear masses(7). Many different parameters of electrical stimulation have been employed. The most striking benefits in behavior were achieved with stimulation to the septal region. In 1952(4), we described the pleasure responses or "good feelings" which patients reported with stimulation to this region, accompanied by objective changes in the direction of immediate alerting. Although this desirable, immediate response was consistent, we have been disappointed in the long-term effects of this procedure. In our studies with humans, we have not been able to induce this pleasure-yielding response by stimulating other subcortical regions. In response to stimulation to other regions, patients either have reported no change or have complained of varying degrees of discomfort. Several other investigators(8, 9, 10) subsequently described behavioral effects with stimulation to discrete brain regions in animals. Descriptions of pleasure response in animals to stimulation of areas, in addition to the septal region, are not in keeping with our experience with human subjects.

The therapeutic limitation of electrical stimulation led us to explore the possibilities of intracerebral chemical stimulation in the hope that the widened parameters of stimulation might prove more effective therapeutically in the treatment of behavioral disorders. Technical improvements ultimately made it possible to extend these studies to human patients.

The interesting and dramatic response in monkeys following stimulation with septal extract and histamine are, in our opinion,

of considerable significance. The septal extract elicits these reactions only when injected into the septal region, suggesting that specific receptor sites exist there. The activity of histamine, as related to stress response, at the base of the brain and, particularly, in the basal-olfactory regions, has been the subject of a number of scientific papers. Harris(11) has determined that levels of histamine at the basal regions of the brain are higher than elsewhere in the brain, and that injection of histamine into the third ventricle of the rabbit is followed by a stress response. He has postulated that the release of histamine in the region of the hypothalamus might be of importance in the stress response. Sawyer(12) demonstrated that the resultant stress response with the injection of histamine into the third ventricle is associated with high amplitude spindling on the electroencephalographic recordings from the septal region. The stress response was eliminated with a lesion in the septal region. Earlier studies from our laboratories demonstrated a relationship between activity of the septal region and stress, as measured by urinary 17-ketosteroids and eosinophile response, to electrical stimulation(13, 14). In another paper(15), we presented data showing that diamine oxidase levels were higher in these rostral, basal regions of the brain than in the cortex or in the brain stem. These studies have led us to speculate that the histamine and, as yet, incompletely identified enzymes for metabolizing this compound, might exist in high quantity in the septal region and that the interaction between them could be of considerable importance as the chemical substrate for the physiological activity of this key brain region with associated behavioral fluctuations.

SUMMARY

A cannula, and a method for its accurate implantation into predetermined brain regions, is described. This technique makes possible the accurate injection of minute quantities of chemicals into specific deep regions of the brain. The behavioral effects and concomitant changes in electrical recordings from subcortical structures induced by the injection of a variety of compounds and brain extracts into selected

brain regions of cats, monkeys, and humans are described. The most consistent and dramatic changes were induced with the injection of bovine septal extract, histamine, and atropine.

BIBLIOGRAPHY

1. Becker, H. C., Founds, W. L., Peacock, S. M., Heath, R. G., Llewellyn, R. C., and Mickle, W. A.: *Electroencephalog. & Clin. Neurophysiol.*, 9: 533, 1957.
2. Heath, R. G., and Founds, W. L.: *Electroencephalog. & Clin. Neurophysiol.*, 12: 930, 1960.
3. Yamamoto, Tatsuya: *J. Neuropath. & Exper. Neurol.*, 18: 418, 1959.
4. Heath, R. G. (Ed.): *Studies in Schizophrenia*. Cambridge: Harvard University Press, 1954.
5. Heath, R. G.: *Psychosom. Med.*, 17: 385, 1955.
6. Heath, R. G.: *Internat. Rev. of Neurobiol.*, 1: 299, 1959.
7. Heath, R. G., and Mickle, W. A.: Evaluation of seven years' experience with depth electrode studies in human patients. In *Electrical Studies on the Unanesthetized Brain*. New York: Paul B. Hoeber, Inc., 1960.
8. Olds, J., and Milner, P.: *J. Comp. & Physiol. Psychol.*, 47: 419, 1954.
9. Olds, J.: *Science*, 127: 315, 1958.
10. Lilly, John C.: *Am. J. Psychiat.*, 115: 498, 1958.
11. Harris, G. W., Jacobsohn, D., and Kahlson, G.: *Ciba Foundation Colloquia, Endocrinology*, 4: 186, 1952.
12. Sawyer, C. H.: *Am. J. Physiol.*, 180: 37, 1955.
13. Leach, B. E., Heath, R. G., and Strohmer, F.: *Fed. Proc.*, 14: 242, 1955.
14. Heath, R. G., and Leach, B. E.: In *Changing Concepts of Psychoanalytic Medicine*. New York: Grune & Stratton, Inc., 1956.
15. deBalbian Verster, F., Leach, B. E., Heath, R. G., and Cohen, M.: *Fed. Proc.*, 18: 212, 1959.

DISCUSSION

MAX FINK, M.D. (Glen Oaks, L. I., N. Y.).—Dr. Heath and his co-workers once again present a series of provocative preliminary findings which indicate a willingness to undertake a most difficult and painstaking task and accomplish much in a short time. This report describes a technique for introducing 1/100 to 1/50 cc. solution into discrete brain areas, in animals and man. Certain observations are reported,

including greater behavioral responsivity occurring following injections in specified loci, notably the hippocampus and the septal regions; and the agents found most active in these areas have been atropine, histamine and septal extract. I should like to assess the historical significance of this study as well as raise some technical questions.

The major neurophysiologic studies of the past decade have demonstrated that by the use of depth electrodes, electrical activity not measurable in scalp or surface leads, can be recorded; and that the electrical activity occurs in the various tapped cerebral sites and not in others nearby. Electrical stimulation in various loci elicits different behavioral consequences for different sites and behaviors generally described as "positive or negative" or "rewarding or punishing" can be elicited from loci, only a few millimeters apart. These observations have been repeatedly made in man as well as animals, and represent the latest cartographic analyses of brain function.

Parallel with these neurophysiologic observations, considerable study has gone into the biochemical relations of brain function and behavior. With the renewed interest in psychotropic and hallucinogenic drugs, all clues indicate that alterations in brain function underlie the behavioral changes of these agents.

In the experiments reported here, these 2 streams of experimental neurophysiology are brought together. These preliminary findings are exciting because they show promise that a more physiologic stimulus to the nervous system is being studied. The studies of the behavioral and neurophysiologic interrelations of convulsive therapy and lobotomy, are essentially relationships of massive brain changes. The studies of psychotropic drugs, electrical stimulation, or electrocoagulation are less massive in their effects, but essentially "non-physiologic" in their character. The introduction of metabolites, ordinarily present in the nervous system, to localized areas, may give Dr. Heath and the other neurophysiologists in psychiatric and parkinson disease institutes a more delicate tool upon which to base the much needed neurophysiologic-behavioral correlative studies.

Among the interesting points in this report, I am most struck by the "apparent" differences in behavioral response for the agents tested when administered peripherally or centrally. Like Feldberg's and Sherwood's studies, these drug patterns are puzzling, and tend to suggest that homeostatic chemical balance mechanisms, so clearly demonstrated in various peripheral systems, are active in the brain as well.

This new technique may be helpful in eluci-

dating drug-neurophysiologic-behavioral relationships. But like all new techniques, this one raises many questions which must be considered seriously. What is the relation of the osmotic pressure of various solutions, on the cells about the injected site? What is the diffusion rate, and how does volume of solution affect the results? Like some of the earlier studies of electrical stimulation, this technic has promise—but hopefully the technical details will be

worked out better than the parameters of electrical stimulation have been studied—for many of the results now ascribed to brain centers may equally be related to the electrical parameters of the stimulus and not the anatomic locus.

I should like to express my admiration for Dr. Heath's experimental enthusiasm and activity, and I look forward to the continuing biochemical-neurophysiologic relationships which are forthcoming from his laboratory.

SENSORY HABITUATION AND DISCRIMINATION IN THE HUMAN NEONATE¹

WAGNER H. BRIDGER, M.D.²

Our interest in studying the sensory capacity of human neonates stems from two frames of reference—neurophysiology and clinical observations. Both of these approaches are aspects of our main objective which has been a search for psychophysiological phenomena that will distinguish babies one from the other at birth. This search is based on the supposition that so-called basic temperamental differences may influence the reciprocal interaction between mother and infant and thus affect personality development. These differences may also help explain why certain environmental stresses produce severe personality deviations in some individuals, and not in others.

We decided to study sensory capacity because we feel that the techniques that we devised are closely related to clinical observations and also are related to recent important neurophysiological advances. In respect to clinical observations, Bergman and Escalona(1) described young children who were unusually sensitive to stimulation. These children appeared to react strongly but not necessarily negatively to very mild stimuli. They also reacted negatively to moderate stimuli and showed unusual sensory discriminatory capabilities and preoccupations. They also later developed childhood psychosis. Soviet psychologists(21) also describe extremely sensitive children but state that while some of these children become psychotic others develop into unusually gifted individuals.

However these were all clinical observations; sensory thresholds and discriminatory capacities were not experimentally determined. In approaching the problem of sensory capacity we decided to use a technique which would perhaps be related to some important neurophysiological processes. Ma-

goun(3) and Jasper(4) have emphasized the role of the ascending and descending non-specific reticular activating and inhibiting systems and the non-specific thalamic systems especially as related to arousal and attention. Differences in the functioning of these systems may affect the development of the child. Furthermore certain behavioral phenomena that are related to sensory capacity have been said to be mediated by these rather important neurophysiological systems. Larsson(5) has demonstrated electrophysiologically the relation between reticular arousal mechanisms and the startle response. Bartoshuk(6) has shown the connection of these arousal mechanisms and the phenomena of habituation, adaptation, or cessation of a startle response.

We therefore thought that if we studied the infant's ability to habituate his startle response to a sensory stimulus we would be measuring some aspects of his sensory capacity and also some aspects of the neurophysiological functions of his thalamic and reticular systems. There were 2 main questions confronting us: do new-born infants show the phenomena of habituation and do they have the capacity for sensory discrimination? In respect to the latter, all previous literature state rather unequivocally that babies do not show sensory discrimination in any modality.

The first part of our study then was to determine if babies can habituate or adapt their responses to a stimulus consecutively repeated. By habituation we mean decrement and cessation of response with repeated application of a constant stimulus.

The subjects for this study were 50 normal full-term babies from the new-born nursery at Bronx Municipal Hospital Center, ranging from 1 to 5 days old. They were taken to the adjoining laboratory at a set time between feedings. During the experimental session their heart rate was measured continuously with a direct writing, standard electrocardiograph utilizing 2 precordial leads. Violent activity did not in-

¹ Read at the 116th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1960.

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interfere with heart rate measurements. The experimental procedure consisted of stimulating the infants with a repetitive series of pure tone auditory stimuli which had a constant loudness intensity. The interval between stimuli and the length of the stimulus was varied according to experimental design by means of an electrical timing mechanism and 3 observers made independent notations as to the presence and intensity of the behavioral response. The stimulus was produced by an audio-frequency oscillator with a graded volume control. In order to overcome the role of the state of the baby we used a stimulus intense enough to produce a response no matter whether the baby was deeply asleep or vigorously crying. However, some babies when crying or asleep did not respond to the most intense stimulus and we always had to vary the interval or novelty of the stimulus to determine whether the baby's cessation of responding was due to habituation and not a temporary shift in state of arousal. The same procedure was utilized in studying tactile stimulation. This tactile stimulus consisted of an air-stream directed at the abdomen or arm, whose force was just sufficient to produce an indentation of the skin. The heart rate reached during the first 5 seconds of stimulation was measured. This measurement has been shown by a previous experi-

ment(7) to be relatively independent of the pre-stimulus state. These heart rate measurements did not give us any additional information but confirmed our behavioral observations. When the baby startled, his heart rate went up to his individual startle heart rate level. When no behavioral response was observed the heart rate level remained relatively the same. Our results indicate that many babies have the ability to habituate their arousal response if the stimulus is applied with an interval of less than 5 seconds. This habituation goes through 2 phases. 1. The cessation of the marked startle. 2. The cessation of any response at all. All babies showed the first phase, while only some babies showed the 2nd phase. Among the variables of this habituation process we found that lengthening the duration of the stimulus and shortening the interval between stimuli decreased the number of repetitions necessary for habituation. This is illustrated in Figure 1. There were some babies who did not completely habituate even when the interval was $\frac{1}{2}$ second and the stimulus was repeated over 30 times. In an exploratory manner we found that by using a constant 20 second duration with a 3 second interval, we could distinguish babies one from the other by noting the number of trials necessary for the 2 phases of habituation. Our tentative

FIGURE 1
PARAMETERS OF SENSORY HABITUATION

Baby L43		Pure tone 400 cs.							
Duration 20 sec. Interval 10 sec.		Duration 5 sec. Interval 5 sec.		Duration 5 sec. Interval 3 sec.		Duration 20 sec. Interval 5 sec.			
1. +++	16. +	1. +++	16. +	1. ++	16. —	1. +++	16. +		
2. ++	17. +	2. ++	17. +	2. +++	17. +	2. ++	17. +		
3. +++	18. +	3. +++	18. +	3. +++	18. —	3. ++	18. —		
4. +++	19. +	4. +++	19. +	4. ++	19. +	4. ++	19. +		
5. ++	20. ++	5. ++	20. —	5. +	20. —	5. +++	20. +		
6. ++	21. ++	6. +++	21. —	6. —	21. —	6. +	21. +		
7. +	22. +	7. +++	22. +	7. +	22. —	7. +	22. +		
8. +++	23. —	8. ++	23. +	8. ++	23. —	8. +	23. +		
9. +	24. +	9. —	24. +	9. +	24. —	9. —	24. —		
10. +	25. +	10. +	25. +	10. +	25. —	10. ++	25. —		
11. ++	26. —	11. +	26. +	11. —	26. —	11. +	26. —		
12. +	27. +	12. —	27. +	12. +	27. +	12. +	27. —		
13. ++	28. +	13. +	28. —	13. ++	28. —	13. +	28. —		
14. +	29. +	14. +	29. +	14. +	29. —	14. +	29. —		
15. —	30. +	15. —	30. +	15. +	30. —	15. +	30. —		

The ratings of behavioral responses of an individual baby to a series of constant pure tone auditory stimulations. The ratings are pooled from three independent observers and were as follows: +++ = full startle, ++ = modified startle, + = any behavioral evidence that the baby heard the stimulus, — = no behavioral change with stimulation. The duration is the length of time the stimulus is on, or being applied, and the interval is the length of time between stimulations.

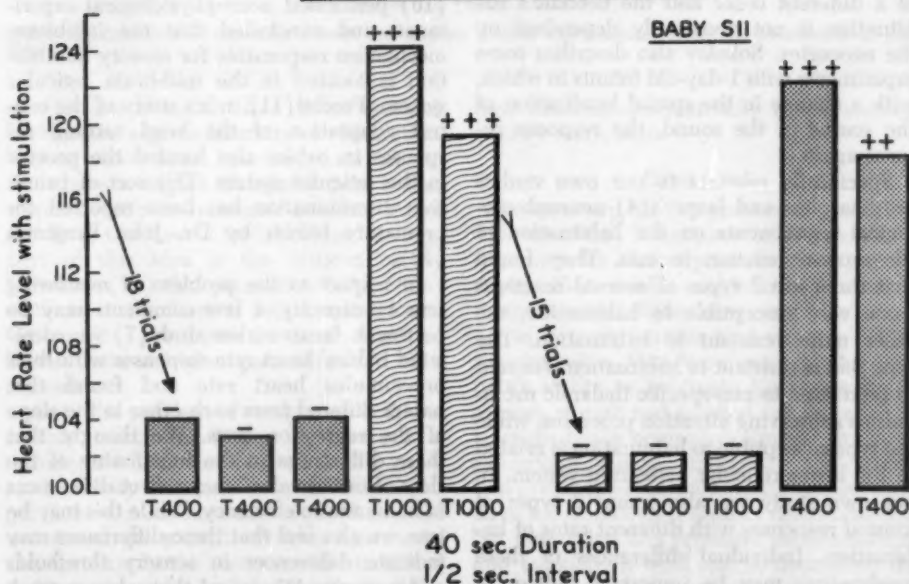
empirical classifications include 4 groups: babies who respond to *most* of the stimuli and either habituate quickly or not at all; and babies that respond to *few* of the stimuli and either habituate quickly or not at all. We are in the process of testing the day to day constancy of these measurements.

While conducting these habituation studies we conceived the idea of using this technique to determine whether babies can discriminate pitch or auditory frequency. Our method was to habituate the babies' response to a pure tone, and when the baby was no longer giving any responses to this tone, we substituted a different pure tone and noted the behavioral and heart rate response. Since the degree to which loudness depends on frequency decreases as the level of intensity rises, we used an intense tone and also controlled for the loudness contour. In order to get good habituation we extended the duration of the tone to 40 seconds and decreased the interval to $\frac{1}{2}$ second. Figure 2 illustrates our results. Af-

ter the baby showed no behavioral or heart rate response to 3 consecutive applications of tone 400 c/s, in the next $\frac{1}{3}$ second interval we switched to tone 1000 c/s, and the babies usually startled and showed an accompanying increase in heart rate. We then habituated the response to tone 1000 c/s, and switched back to tone 400 c/s, and the babies startled again. We were able to demonstrate pitch discrimination in 15 babies but not in others, and the limits of this discrimination varied. One baby could discriminate between tones of 200 c/s and 250 c/s. Of course if the baby did not habituate we could not test discrimination. We applied this technique to tactile stimulation in a few babies and found that if an air puff is applied for 5 seconds to the right hand with intervals less than 3 seconds the baby habituates his responses, and when it is then applied to the left hand, the response returns and vice versa; the same holds true for the right and left sides of the abdomen.

It is thus rather evident that human neo-

FIGURE 2
SENSORY DISCRIMINATION



Pitch or auditory frequency discrimination in a two day old infant. The heart rate response is indicated by the level of heart rate reached during the first 5 seconds of stimulation. The behavioral responses shown above the bars, are rated as in Figure 1. The trials indicate the number of consecutive stimulus applications necessary for complete habituation. Three additional trials were given after habituation occurred and before the switch to the novel stimulus.

nates show the phenomena of sensory habituation and sensory discrimination. Perhaps measurements of these phenomena when applied as a technique to distinguish babies one from the other may point up differences in basic sensory capacities and differences in the neural mechanisms subserving general excitation, inhibition and attention processes.

What are implications of the existence of habituation and discrimination in the neonate in regard to neocortical functioning in the neonate? Recent Soviet experiments by Dr. Eugene Sokolov(8) indicate a similar phenomenon in human adults with a crucial difference. He describes habituation to auditory stimuli but also states that when the interval between stimuli is decreased or the intensity of the stimulus is decreased the response occurs again. He ascribes this function to the existence in the neocortex of a neuronal model of the stimulus. Our babies did not lose their habituation to a given stimulus if the stimulus was decreased in intensity or applied after a shorter interval. The response only returned if the interval between stimuli was lengthened, not shortened. Adult habituation is apparently of a different order and the neonate's habituation is not necessarily dependent on the neocortex. Sokolov also describes some experiments with 1-day-old infants in which, with a change in the spatial localization of the source of the sound, the response returns again.

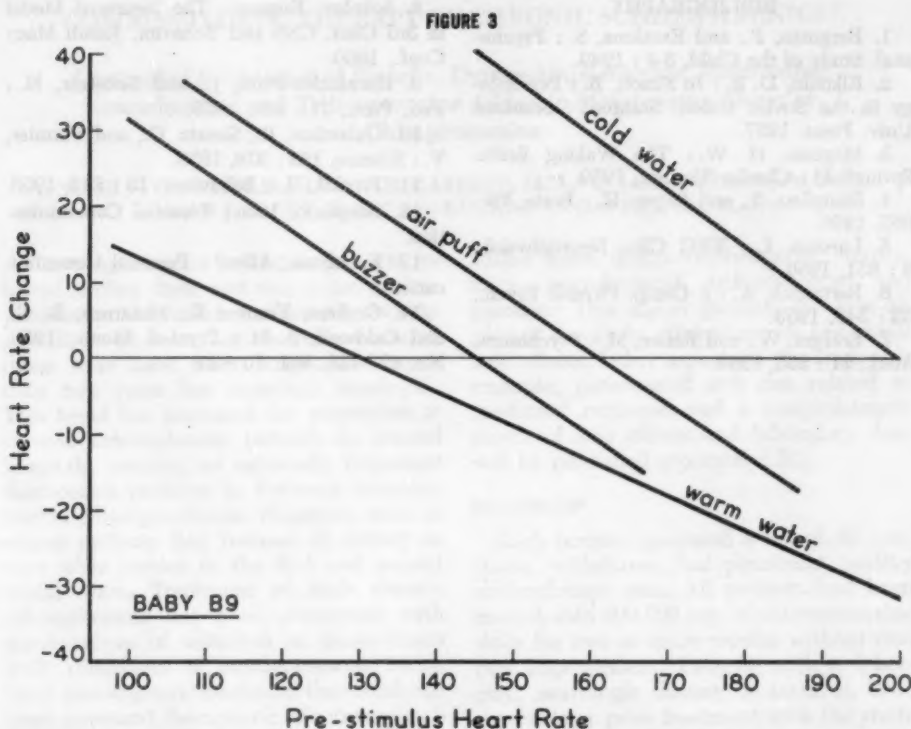
Specifically relevant to our own studies are Sharpless and Jasper's(4) neurophysiological experiments on the habituation of the arousal reaction in cats. They found that there are 2 types of arousal reactions—one very susceptible to habituation, the other more resistant to habituation. The type that is resistant to habituation was said to be related to non-specific thalamic mechanisms subserving attention processes, while the type susceptible to habituation is related to the lower reticular activating system. In our own study we also found 2 types of arousal responses with different rates of habituation. Individual differences in these mechanisms may be important indices of temperamental properties. Sharpless and Jasper also demonstrated that decorticate

cats show habituation and pitch discrimination.

Thus we feel that the pitch discrimination demonstrated in our experiments does not depend on the functioning of neocortical structures. This primitive type of sensory discrimination is of a different order from that shown by mature organisms which is really discrimination by learned differentiation. The usual method of studying sensory discrimination in non-verbal subjects involves the use of conditioned reflex techniques. The subject is conditioned to one stimulus and automatically generalizes the conditioned response to all similar stimuli. Only the original stimulus is reinforced and the other stimuli undergo conditioned inhibition. The subject learns to differentiate the stimulus that is reinforced, from all others, and this discriminatory capacity is determined by the extent of the conditioned inhibition. Since conditioned inhibition is poorly developed in infants(2) they have a low capacity for learned sensory discrimination, even though our habituation experiments demonstrated some sort of primitive sensory discrimination.

Both Hernández-Péon(9) and Galambos(10) performed neurophysiological experiments and concluded that the inhibitory mechanism responsible for sensory habituation is located in the mid-brain reticular system. Precht(11) in his study of the central adaptation of the head turning responses in babies also located the process in the reticular system. This sort of primitive discrimination has been reported for premature babies by Dr. John Benjamin(12).

In respect to the problem of measuring sensory capacity, a few comments may be pertinent. In an earlier study(7) we correlated babies' heart rate responses with their pre-stimulus heart rate and found that babies differed from each other in the slope of the regression lines. We thought that these differences in the functioning of the "law of initial value" may reflect differences in homeostatic efficiency. While this may be true we also feel that these differences may indicate differences in sensory thresholds and capacity. We found that when a weak stimulus is used, the slope of the regression line becomes flatter and the scatter is great-



Best fitting regression lines of patterns of heart rate responses produced with stimulation of different modalities in an individual baby.

er—the "law of initial value" is not so valid. Perhaps for a given intensity of stimulation, babies whose heart rate responses are erratic have a higher threshold than babies whose heart rate responses conform rigidly to the "law of initial values." In support of this idea is the observation by Freedman (13) that premature babies don't conform to the "law of initial values," and Graham (14) has shown that brain damaged infants have a higher pain threshold than normals.

As to the problem of comparing different sensory modalities Figure 3 illustrates a technique which may be useful. We apply an inhibitory stimulus (warm water) and get a low stimulus heart rate, then cold water and get a high stimulus heart rate, and then apply the test stimulus—tactile or auditory *etc.* and calculate how much of the range was used up with this stimulation. We can thus compare babies in respect to

their differential sensitivities in the various sensory modalities.

SUMMARY

In summary, in the process of exploring the neonates' behavioral and autonomic repertoire for the purpose of devising techniques that would enable us to measure temperamental differences, we have come across two phenomena that we would like to emphasize. First we described the neonate's ability to habituate his responses to sensory stimuli and pointed out its possible relations to the neurophysiological structure subserving arousal, inhibition and attention; second we demonstrated that neonates have the capacity for sensory discrimination but noted that this primitive discrimination and habituation need not be dependent on the functioning of cerebral cortex and does not appear to be identical with the same phenomena in the mature organism.

BIBLIOGRAPHY

1. Bergman, P., and Escalona, S. : *Psychological Study of the Child*, 3-4 : 1949.
2. Elkonin, D. B. : In Simon, B. : *Psychology in the Soviet Union*. Stanford : Stanford Univ. Press, 1957.
3. Magoun, H. W. : *The Waking Brain*. Springfield : Charles Thomas, 1959.
4. Sharpless, S., and Jasper, H. : *Brain*, 79 : 655, 1956.
5. Larsson, L. : *EEG Clin. Neurophysiol.*, 8 : 631, 1956.
6. Bartoshuk, A. : *J. Comp. Physiol. Psych.*, 52 : 540, 1959.
7. Bridger, W., and Reiser, M. : *Psychosom. Med.*, 21 : 265, 1959.
8. Sokolov, Eugene : *The Neuronal Model* in 3rd Conf. CNS and Behavior, Josiah Macy Conf., 1960.
9. Hernández-Péon, J., and Scherrer, H. : *Fed. Proc.*, 71 : 228, 1955.
10. Calambos, R., Sheatz, G., and Vermier, V. : *Science*, 123 : 376, 1956.
11. Prechtl, H. : *Behaviour*, 13 : 212, 1958.
12. Benjamin, John : *Personal Communication*.
13. Freedman, Alfred : *Personal Communication*.
14. Graham, Frances K., Matarazo, R. G., and Caldwell, B. M. : *Psychol. Mono.*, 1956. No. 427-428, Vol. 70 #20.

COMBINED DRUG THERAPY OF CHRONIC SCHIZOPHRENICS¹

Controlled Evaluation of Placebo, Dextro-Amphetamine, Imipramine, Isocarboxazid and Trifluoperazine Added to Maintenance Doses of Chlorpromazine

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JULIAN J. LASKY, Ph.D.,⁴ AND EUGENE M. CAFFEY, JR., M.D.⁵

The proportion of psychotic patients released during their first two years of hospitalization has varied considerably over the past 30 or 40 years, but the release rate of those who have been hospitalized more than two years has remained steady(1). This trend has increased the proportion of chronic schizophrenic patients in mental hospitals, creating an especially important therapeutic problem in Veterans Administration Neuropsychiatric Hospitals, most of whose patients first became ill during or soon after service in the first and second world wars. Treatment of such chronic schizophrenics has been attempted with combinations of sedatives or tranquilizers with stimulants or antidepressants(2-18). Most investigators concluded that combinations increased therapeutic effectiveness although a few, well-controlled studies failed to support this contention(19-21).

Many chronic schizophrenic patients in VA hospitals were known to be on maintenance treatment with phenothiazine derivatives. A large-scale cooperative study was designed to explore the possible enhancement of conventional treatment by the addition of the new antidepressant drugs. Five hundred and twenty patients currently being treated with chlorpromazine (Thorazine) were obtained from 26 hospitals for 20 weeks of combination treatment.⁶ Drugs

added were dextro-amphetamine, imipramine, isocarboxazid, trifluoperazine and placebo.⁷ This report presents the over-all plan of the study, clinical results and major side effects. Other aspects of the study, for example, patient-staff attitudes related to treatment response, and a comprehensive report of side effects and laboratory data will be published separately(22).

PROCEDURE⁸

Each hospital prepared a list of 40 apathetic, withdrawn, but physically healthy schizophrenic men. All patients had been treated with 200-600 mg. of chlorpromazine daily for two or more months without current improvement. Patients with a lobotomy, neurologic disease or seizures, toxic psychosis or prior treatment with the study drugs were excluded from the sample. Twenty eligible patients from each hospital were then randomly selected and assigned to the various drug combinations by the Central NP Research Laboratory at Perry Point, Md. A double-blind procedure was employed in drug administration.

this study: American Lake, Washington, Battle Creek, Mich., Biloxi, Miss., Brockton, Mass., Coatesville, Pa., Danville, Ill., Downey, Ill., Jefferson Barracks, Mo., Lebanon, Pa., Lexington, Ky., Los Angeles, Calif., Lyons, N. J., Montrose, N. Y., Murfreesboro, Tenn., Northampton, Mass., North Little Rock, Ark., Northport, L. I., N. Y., Palo Alto, Calif., Perry Point, Md., Roseburg, Ore., Salisbury, N. C., Salt Lake City, Utah, St. Cloud, Minn., Togus, Me., Topeka, Kan., Tuskegee, Ala., and Waco, Texas.

⁷ Geigy Pharmaceuticals (placebo-mannitol, imipramine-Tofranil), Hoffman-La Roche, Inc. (isocarboxazid-Marplan), and Smith Kline and French Laboratories (dextro-amphetamine-Dexedrine, Trifluoperazine-Stelazine) generously donated these drugs.

⁸ The complete study protocol, reproduced in the Transactions of the Fourth Annual Research Conference on Chemotherapy in Psychiatry(23), contains considerable detail regarding selection of patients, measures, dosage schedules, laboratory controls, and precautions.

¹ Project four of the Veterans Administration Cooperative Studies of Chemotherapy in Psychiatry. The following individuals contributed to the study: Jesse L. Bennett, M.D., Donald R. Gorham, Ph.D., Clyde J. Lindley, M.A., Maurice Lorr, Ph.D., Amedeo S. Marrazzi, M.D., John E. Overall, Ph.D., Alex D. Pokorny, M.D., and Marcus P. Rosenblum, M.D.

² VA Psychiatry and Neurology Service, Washington, D. C.

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⁴ VA Central NP Research Laboratory, Perry Point, Md.

⁵ VA Hospital, Perry Point, Md.

⁶ The following VA-NP hospitals participated in

The sample of 520 patients ranged from 21 to 55 years in age, the mean being 38 years. The average patient had been hospitalized 8½ years during his current stay. This was the first hospitalization for 21%; the second or third for another 57%. Only one patient in 5 had left the hospital for more than a week's planned absence during the year preceding the study. Nearly 78% had never been married; less than 8% were currently married. The average patient had completed 9½ grades of school. Fifty-four per cent had worked only at unskilled jobs and another 17% had never held a steady job.

Symptomatic response to the study drugs was evaluated by two measures: The Inpatient Multidimensional Psychiatric Scale or IMPS (24) and the Psychotic Reaction Profile or PRP (25). In terms of their pre-study measures these patients demonstrated more withdrawal, disorientation, conceptual disorganization and motor disturbance than the average VA patient but less grandiose excitement, agitated depression, paranoid projection, hostile belligerency, perceptual distortion and excitement. Withdrawal includes such behavior as retarded speech and movement, apathy and lack of relationship with others. Disorientation to time or place was present to some degree in about 45% of the sample. Patients with high scores on motor disturbance grin and grimace inappropriately, while conceptual disorganization scores reflect irrelevant, repetitive, rambling or incoherent speech including neologisms. The sample was reasonably typical of a group of withdrawn, chronically ill schizophrenics, not particularly active or disturbed and showing little affect, either in the form of depression or elation.

During the study, each patient remained on his individually established dose of chlorpromazine. Coded medication in identical appearing capsules was supplied to the hospitals in the following strengths: dextro-amphetamine, 10 mg.; isocarboxazid and trifluoperazine, 5 mg.; imipramine, 37.5 mg. and placebo. During the first 4 weeks, a predetermined dosage schedule was followed: days 1-3, one capsule; days 4-7, two capsules; days 8-14, three capsules and days 15-28, four capsules. During the final 16 weeks, medication was prescribed within

the limits of 1 to 6 capsules daily. "Activator" medication was not dispensed during the late afternoon. Results indicated that dosage was used through the full range with 60% of all patients being on maximum dosage during the last few weeks of the study.

Pairs of raters independently evaluated all patients immediately before the study and after 4 and 20 weeks of combined drug treatment. Psychiatrists and psychologists interviewed the patients and completed the IMPS; nurses and nursing assistants completed the PRP on the basis of recent ward observations. Data relating to clinically observable side effects, blood pressure and hematologic changes, and hepatic function were obtained at regular intervals.

Fifty-eight patients were not included in the final analysis of data: 27 were dropped for medical reasons and 31 were excluded for administrative reasons, usually incomplete data.

The statistical method for evaluating therapeutic effectiveness of the drug combinations was analysis of multiple covariance (simple randomized design). Each of 17 symptom clusters, 10 from the IMPS and 7 from the PRP, was analyzed for relative change over the first 4 weeks, the following 16 weeks, and for the entire 20 weeks. Final mean scores in each analysis were adjusted for pre-study status on the variable being analyzed as well as for the net effect of 11 prognostic or control variables: age, length of current hospitalization, number of prior hospital admissions, current marital status, anticipated community placement if discharged, number of times on trial visit or leave of absence during the year preceding the study, education, work level, use of alcohol as a contributing factor in the present hospitalization, chlorpromazine dosage and initial body weight. This adjustment served to equate the groups prior to study and to increase the sensitivity of the tests of mean differences. The findings, based on 510 comparisons (10 for each of 17 criteria over 3 time periods) were also subjected to a multiple range test for further protection against chance effects (26). The 5% level of statistical significance was applied throughout.

RESULTS

Clinical Ratings^a

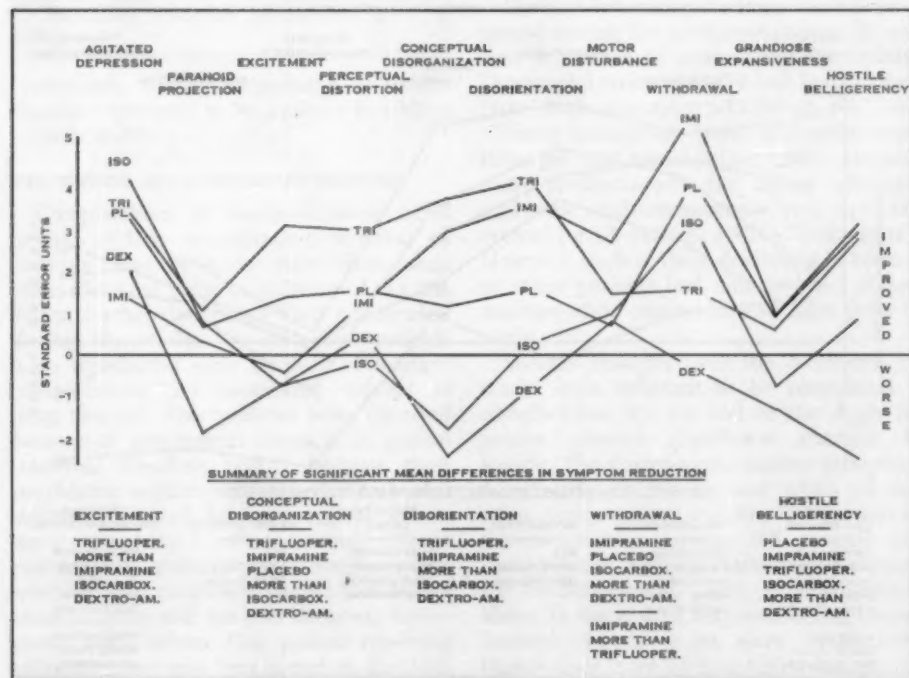
Changes after 4 weeks of combined drug treatment were not impressive. Significant differences between treatments were observed on 4 IMPS measures (paranoid projection, agitated depression, motor disturbance and conceptual disorganization) but on none of the PRP measures. Of these four, only conceptual disorganization was significant by the end of the study.

Symptom reductions indicated by the

^a Detailed statistical tables containing the adjusted means, F ratios, and results of the multiple range test for all criteria at the three evaluation periods may be found as a statistical supplement in the Appendix of the Transactions of the Fifth Annual Research Conference on Chemotherapy in Psychiatry (23). Inquiries concerning additional statistical or procedural details may be directed to the Central NP Research Laboratory, Perry Point, Md.

IMPS after 20 weeks of treatment are summarized in Figure 1. Significant differences between the various drug combinations were noted on 5 of the 10 scale measures. *No combination of drugs was more effective than chlorpromazine with placebo.* The best combination for controlling excitement was trifluoperazine. Trifluoperazine and imipramine combinations were each superior to the other two in reducing disorientation and conceptual disorganization but neither was superior to the other. Withdrawal, one of the target symptoms, was more effectively treated by imipramine and isocarboxazid combinations than by added dextro-amphetamine; imipramine combination also surpassed the trifluoperazine combination. The dextro-amphetamine combination aggravated hostile belligerency; all other combinations were superior in reducing this symptom cluster.

FIGURE 1
CHANGES IN SYMPTOMS AFTER 20 WEEKS OF COMBINED DRUG THERAPY
INTERVIEW TEAM RATING (IMPS)



Changes on the PRP after 20 weeks of treatment are presented in Figure 2. Significant differences between treatment groups were noted on 6 of the 7 measures. As on the IMPS, one or more of the added drugs was superior to the dextro-amphetamine combination but none was superior to chlorpromazine-placebo. The IMPS and PRP reflected similar withdrawal and conceptual or thinking disorganization changes. On the PRP, however, agitated depression was affected differently by the various combinations, imipramine and placebo appearing better than the others.

Besides comparing treatment groups with each other, data were analyzed to compare changes *within* each treatment group over the 20-week period. Significant changes in each treatment group are shown in Table 1. Addition of placebo to chlorpromazine produced significant improvement in 8 of 17 criterion measures as contrasted with 9 of

17 improved by adding trifluoperazine. On the other hand, significant worsening on 3 measures followed addition of dextro-amphetamine. Specific drug effects on symptoms were difficult to distinguish, though trifluoperazine appeared to improve further such psychotic symptoms as disorientation, conceptual disorganization, perceptual distortion, and thinking disorganization. Perhaps equivalent augmentation of the dose of chlorpromazine would have done the same.

Two major conclusions may be drawn regarding 20 weeks of combined drug therapies. First, none of the combinations of chlorpromazine and an activating drug was superior to chlorpromazine alone (with placebo). Second, addition of dextro-amphetamine to maintenance therapy with chlorpromazine not only may impair continued improvement but may actually make patients worse. Of the three newer

FIGURE 2
CHANGES IN SYMPTOMS AFTER 20 WEEKS OF COMBINED DRUG THERAPY
WARD TEAM RATING (PRP)

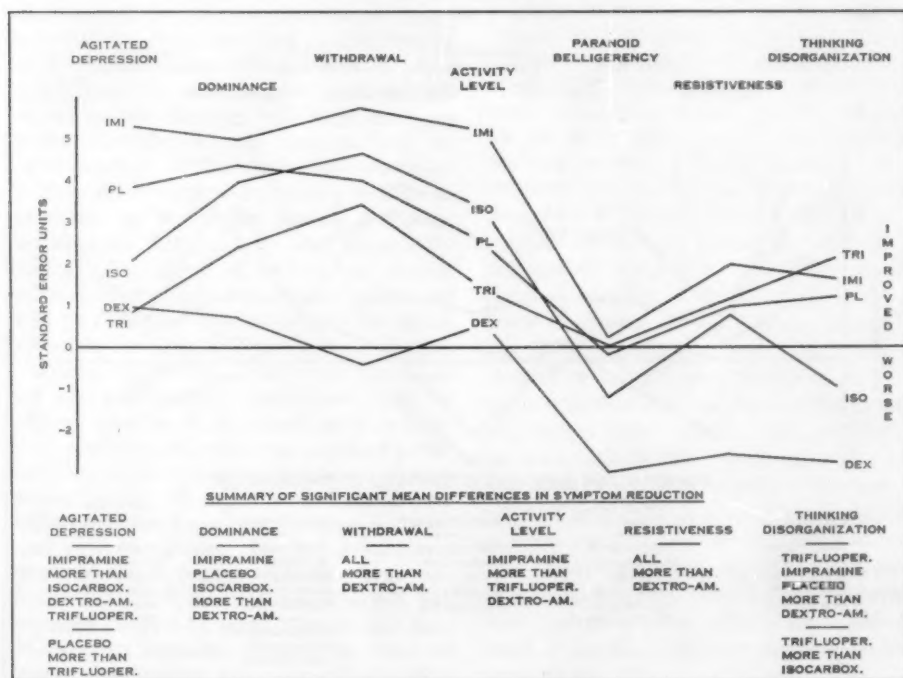


TABLE 1
CHANGES IN SYMPTOM RATINGS AFTER 20
WEEKS OF COMBINED DRUG THERAPY *

Symptom Clusters	Drugs added to chlorpromazine				
	Pl.	Tri.	Imi.	Iso.	Dex.
IMPS					
Withdrawal	+		+	+	
Agitated depression	+	+		+	
Hostile beligerency	+	+	+		-
Conceptual disorganization		+	+	-	
Disorientation		+	+		
Excitement	+	+			
Perceptual distortion		+			
Motor disturbance			+		
PRP					
Withdrawal	+	+	+	+	
Agitated depression	+		+		
Paranoid beligerency					-
Thinking disturbance		+			-
Dominance	+	+	+	+	
Activity level	+		+		

* Statistically significant improvement (+) or worsening (-).

compounds, adding imipramine or trifluoperazine appeared to be superior to adding isocarboxazid.

SIDE EFFECTS AND LABORATORY FINDINGS

Complications of treatment were infrequent, seldom necessitating removal of patients from the study. Side effects were often observed prior to addition of the test drugs, further decreasing their significance during the study. Twenty-seven patients were terminated early because of medical complications not necessarily related to drug therapy. Five patients were dropped because of intercurrent illness, 3 for gastrointestinal bleeding and 2 because their psychiatric condition worsened. Three of 4 patients dropped for neurological effects were receiving trifluoperazine. Three patients, all getting dextro-amphetamine, were dropped because of weight loss. Hypotension accounted for one dropout, tachycardia for 2 others. One patient receiving trifluoperazine was terminated in the 14th

week because of the development of leukopenia. Another patient was terminated because of distinctly elevated SGO-T titers but his prestudy SGO-T titer was so abnormal that this complication could hardly be ascribed to his study medication. There were no instances of jaundice or agranulocytosis. Dropouts for specific reasons were not differentially related to type of medication although the greatest number over-all were from the dextro-amphetamine group.

No side effects before or during treatment were reported for 255 of the 462 patients. The incidence of specific side effects was also low. The most common one, cardiovascular disturbance, was reported for only 36 patients. Differences among treatment groups were significant for two specific side effects only: of the 17 patients who developed extrapyramidal symptoms during treatment, 9 were in the trifluoperazine group; 10 of the 17 patients reported as demonstrating loss of appetite were receiving dextro-amphetamine. There was no relationship between dosage level of chlorpromazine and the incidence of side effects and abnormal laboratory findings.

Deviant laboratory findings were evenly spread among the treatment groups. At one time or another, 55 patients had eosinophilia (eosinophil count >6%), 74 had leukocytosis (total leukocyte count >13,500 cu. ml.) and 17 were leukopenic (total leukocyte count times per cent neutrophils <1,800). Hepatic tests, predominantly the serum glutamic oxalacetic acid transaminase test, were abnormal for 91 patients (SGO-T >40 units). However, each of these deviations is inflated as many patients had only isolated abnormalities while others also had them prior to study.

Weight changes over the 5 months of study were sufficient to be considered a complication. By the end of the study all groups showed significant changes in weight. The dextro-amphetamine group lost 4.5 pounds on the average while all the other groups gained weight; 12.5 pounds in the imipramine group, 9.5 pounds for isocarboxazid and approximately 4 pounds for trifluoperazine and chlorpromazine alone. In the case of imipramine and isocarboxazid, weight gains were significantly higher than from adding trifluoperazine or

placebo. In some instances, this side effect was clearly undesirable. The extremes of individual weight changes ranged from a loss of 52 pounds to a gain of 84 pounds.

DISCUSSION

The average patient in this study was a 38-year-old, modestly educated, vocationally unskilled bachelor. His social and economic adjustment prior to hospitalization was poor, being worsened by almost a decade of current hospitalization. During this period, he was refractory to treatment, including drug therapy. Although seriously ill from a social viewpoint, he no longer manifested the flagrant psychotic symptoms that might have been present earlier in his illness. The number of such patients is large enough in all psychiatric hospitals to more than justify the continued search for a means of stimulating further improvement.

In the light of the clinical problem posed, a controlled study seemed indicated. Dramatic improvement was neither expected nor did it occur. After 5 months of treatment, there was a statistically significant reduction in symptom ratings in all but the dextro-amphetamine group. Positive changes, although statistically reliable, were not clinically impressive; no patient improved sufficiently to be discharged or to be granted a trial visit. Current drug therapies, however effective for acutely ill schizophrenics, cannot be expected to change what has become a way of life for these chronic patients or to supply the social, economic and personality resources which they lack.

One reason for the relatively poor result of the drug combinations was the improvement patients made after merely adding placebo to their maintenance chlorpromazine. This might reflect the continuation of a gradual long-term trend toward improvement or the effect of 5 months of additional therapy with chlorpromazine. However, patients were selected because of clinical stability and most had been receiving chlorpromazine for well over two months. Rater bias toward improvement might account for the improvement but this seems unlikely as raters detected the worsening of the dextro-amphetamine group. The most likely speculation is that patients

responded positively to increased staff attention, though such a placebo effect was not observed in two similar studies (27, 28).

Attempts to single out selective drug actions proved futile as the added drugs were no better in reducing symptoms than chlorpromazine alone. Trifluoperazine added to chlorpromazine appeared to enhance anti-psychotic effects (reduced disorientation, conceptual disorganization, perceptual distortion, thinking disorganization and excitement) over some other combinations, while imipramine exceeded trifluoperazine in controlling agitated depression, withdrawal and inactivity.

While these particular drug combinations were not especially effective, they were safe. Only 5% of the patients were dropped from the study because of side effects or complications, not all of which were clearly related to treatment. As in earlier VA cooperative drug studies, abnormal symptoms, signs and laboratory tests were usually distributed evenly among the treatment groups (29). Two clear cut exceptions were the increased prevalence of extrapyramidal syndromes following addition of trifluoperazine and loss of appetite from adding dextro-amphetamine. With the exception of dextro-amphetamine all other drug combinations were accompanied by some weight gain.

We should like to emphasize that our findings regarding drug combinations apply only to the manner we used them; that is, by adding activator drugs to maintenance treatment with chlorpromazine. Combined drug therapy has also been used by starting both classes of drugs concurrently or treating first with a stimulant (possible exacerbating the psychosis) and then following with chlorpromazine (19). We rejected these approaches largely on the basis of practicability and possible hazards, but the results of this study do not apply to these alternate methods.

SUMMARY

Five hundred and twenty chronic, withdrawn and apathetic schizophrenic men were selected for 20 weeks of treatment with combined drug therapy. All had been on maintenance doses of chlorpromazine (200-600 mg.) for 2 or more months. Activator drugs were added to chlorpromazine ad

libidum in the following maximum daily dosage (or less): dextro-amphetamine, 60 mg.; isocarboxazid and trifluoperazine, 30 mg.; imipramine, 225 mg.; and placebo.

Prior to the study and after 4 and 20 weeks of treatment, 462 patients were rated on 17 measures from an interview scale (IMPS) and a ward scale (PRP). Changes after 4 weeks of combined drugs were not impressive. At the end of 20 weeks, every treatment group except dextro-amphetamine improved, including the chlorpromazine-placebo group. None of the drug combinations was superior to chlorpromazine and placebo. Adding dextro-amphetamine increased hostile and paranoid belligerency and thinking disturbance.

Only 5% of the patients were dropped from the study because of side effects or complications. Abnormal laboratory tests were also infrequent and evenly distributed among the treatment groups. Trifluoperazine added to chlorpromazine increased the prevalence of extra-pyramidal syndromes, while dextro-amphetamine produced appetite and weight loss. All other treatment groups gained weight, significantly more from adding imipramine and isocarboxazid than from adding trifluoperazine or placebo.

Although the present study did not demonstrate substantial benefit from combined drug therapy, the chronicity of the patients and the method of drug administration limit generalization.

BIBLIOGRAPHY

1. Zubin, J., Burdock, E. I., Sutton, S., and Cheek, F.: Epidemiological Aspects of Prognosis in Mental Illness. In *Epidemiology of Mental Disorder*. Pasaminck, B. (Editor): Washington, D. C.: AAAS, 1959, p. 131.
2. Ayd, F. J., Jr.: *Bull. School Med. Univ. Maryland*, 44: 29, 1959.
3. Ayd, F. J., Jr.: *J. Neuropsychiat.*, 1: 35, 1959.
4. Azima, H., and Vispo, R. H.: *Am. J. Psychiat.*, 115: 245, 1958.
5. Azima, H.: *Canad. M.A.J.*, 80: 534, 1959.
6. Davidoff, E., Reifenstein, E. C., and Goodstone, G. L.: *Arch. Neurol. and Psychiat.*, 45: 439, 1941.
7. Davidoff, E.: *Dis. Nerv. System.*, 19: 249, 1958.
8. Ferguson, J. T.: *Psychiat. Res. Rep.*, 4: 35, 1956.
9. Gallagher, W. J., Schroepfel, A. B., and Pfeiffer, C. C.: *Arch. Genl. Psychiat.*, 1: 215, 1959.
10. Gottlieb, J. S., and Coburn, F. E.: *Arch. Neurol. and Psychiat.*, 51: 260, 1944.
11. Hart, T. M.: *Am. Pract. and Digest Treat.*, 7: 1988, 1956.
12. Keup, W., et al.: *Am. J. Psychiat.*, 116: 257, 1959.
13. Kuhn, R.: *Am. J. Psychiat.*, 115: 459, 1958.
14. Lehman, H. E., Cohn, C. H., and De-Verteuil, R. L.: *Can. Psychiat. Assoc. J.*, 3: 155, 1958.
15. Niswander, G. D., and Holt, E. K.: *Dis. Nerv. System*, 18: 11, 1957.
16. Reznikoff, L.: *Am. J. Psychiat.*, 98: 196, 1941.
17. Saunders, J. C., Radinger, N., Rochlin, D., and Kline, N. S.: *Dis. Nerv. System*, 20: 31, 1959.
18. Shore, P. A.: *Dis. Nerv. System Suppl.*, 3, 21: 62, 1960.
19. Mead, B., Ellsworth, R. B., and Grimmer, J. O.: *J. Nerv. and Ment. Dis.*, 127: 351, 1958.
20. Niswander, G. D., Haslerud, G. M., Brody, N., and Casey, T. M.: *J. Nerv. and Ment. Dis.*, 125: 51, 1957.
21. Reinhardt, R. F., Schiff, S. B., and Sinnett, E. R.: *Am. J. Psychiat.*, 116: 68, 1959.
22. Caffey, E. M., Jr., and Klett, C. J.: *Dis. Nerv. System*, in press.
23. Lindley, C. J. (Ed.): *VA Res. Conf. on Chemotherapy in Psychiat. Trans.*, 1-5, VA Department of Medicine and Surgery, Washington, D. C., 1957-1960.
24. Lorr, M., McNair, D. M., Klett, C. J., and Lasky, J. J.: *Am. Psychol.*, 15: 495, 1960.
25. Lorr, M., O'Connor, J. P., and Stafford, J. W.: *J. Clin. Psychol.*, 16: 241, 1960.
26. Kramer, C. Y.: *Biometrics*, 12: 307, 1956.
27. Casey, J. F., Bennett, I. F., Lindley, C. J., Hollister, L. E., Gordon, M. H., and Springer, N. N.: *Arch. Genl. Psychiat.*, 2: 210, 1960.
28. Casey, J. F., Lasky, J. J., Klett, C. J., and Hollister, L. E.: *Am. J. Psychiat.*, 117: 97, 1960.
29. Hollister, L. E., Caffey, E. M., Jr., and Klett, C. J.: *Clin. Pharmacol. and Therap.*, 1: 284, 1960.

BEHAVIORAL CHANGES IN PATIENTS WITH STROKES^{1, 2}

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Two broad points of view embodied in the work of Kurt Goldstein(1) and the more recent studies of Weinstein and Kahn (2) have evolved concerning the nature and origin of behavioral disturbances in brain-damaged patients. Although in many ways the views on denial expressed by Weinstein and his associates are an outgrowth of the earlier work, there are also certain significant differences.

Goldstein emphasizes the incapacity of these patients to function at an abstract level. He describes a particular deficit, namely, the inability to make choices or to deal in the realm of the possible. His interpretation of a great many of the manifestations of these patients is in line with the concept that they seek to limit their environmental contact to areas of adequate stimulation. He speaks of avoidance as a biologically induced process designed to minimize or to eliminate the occurrence of a catastrophic reaction.

The emphasis of Weinstein and Kahn appears to be more on the motivated aspect of the patient's responses, as these are manifested in the patient's effort to express himself and his values through altered patterns of symbolic organization. The experiential content becomes meaningful when viewed through the social and cultural screen of the patient's idiosyncratic life experiences. The response is then a function of whatever the characteristic defensive style of the patient may be, with the level of alteration in the brain milieu influencing the manner in which this style is symbolically expressed.

We have had the opportunity in the course of a 3-year period (1957-1960) to

make a number of observations on patients admitted to a general hospital during the acute phase of a cerebro-vascular accident. It is our purpose to present some of our findings and to discuss them in the light of the above-mentioned points of view.

A total of 390 patients have been seen to date. We have selected for consideration 84 patients. This group represents those who experienced a hemiparesis or hemiplegia and where adequate psychiatric data were available. Eliminated from this report are 48 patients with severe aphasic disturbances, 74 who had strokes but no motor deficit, 94 who died soon after admission either of the effects of the stroke or complicating illness, and 90 where the data were inadequate because of language barriers or limited hospital stay.

The 84 patients were classified according to whether the psychological deficit on clinical estimate appeared to be mild, moderate or severe. Patients were rated as mild who showed no gross impairment in the interview situation when questioned about their illness and past history. Those rated as severe showed global defects in general orientation and responsiveness. Those rated as moderate represented an intermediate group with uneven performance and fluctuating levels of response.

FINDINGS

The age distribution, neurologic and electroencephalographic findings, and the disposition of the patients in each of these categories are given in Tables 1, 2, and 3 respectively.

Age: Distribution of age appears similar for the moderate and severe groups (Moderate: average 66.8 years, range 50 to 80; Severe: average 65.1 years, range 40 to 81). Though the distribution of age categories of the mild groups overlaps with those of the moderate and severe groups, 13% of its population comes from the 30-39 year age bracket. Since the latter contributes nothing to the moderate and severe groups, it alone accounts for the lowered

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³ From the Second (Cornell) Medical and Neurological Service, Bellevue Hospital, New York City.

TABLE 1
Age Distribution of 84 Stroke Patients

AGE RANGE	MILD DEFICIT GROUP	MODERATE DEFICIT GROUP	SEVERE DEFICIT GROUP	TOTAL
30-39	7	—	—	7
40-49	3	—	1	4
50-59	13	6	1	20
60-69	21	5	6	32
70-79	7	9	2	18
80-89	1	1	1	3
Average :	58.0	66.8	65.1	
Range :	33-82	50-80	40-81	

TABLE 2
Neurological Findings For The Three Deficit Groups

	MILD (N=52)			MODERATE (N=21)			SEVERE (N=11)		
	N	% (Approximate)		N	% (Approximate)		N	% (Approximate)	
Sensory Loss									
None	30	58	}	4	19	}	1	9	}
Mild	12	23		2	9		1	9	
Moderate	4	8	}	3	14	}	3	27	}
Severe	3	6		9	42		3	27	
Equivocal	3	6		3	14		3	27	
Hemiparesis									
Mild	21	40		6	28		2	18	
Moderate	15	29		7	33		4	36	
Severe	16	31		8	38		5	45	
Hemianopia	4	7		10	47		6	54	
Equivocal	0	0		4	19		4	35	
Dominant Side	27	52		2	9		5	45	
Aphasia	9	16		6	28		4	36	
EEG									
Normal	16	31		0	0		0	0	
Intermediate	22	42		7	33		5	45	
Grossly & Diffusely Abnormal	4	8		12	57		5	45	
No Record	10	19		2	9		1	9	

TABLE 3
Disposition of Patients in All Groups (84)

GROUP	MILD	MODERATE	SEVERE	TOTAL
Home	35	7	3	45
Care of Relatives	9	1	0	10
Nursing Homes	7	8	1	16
Psychiatric Hospital	0	1	4	5
Died	1	4	3	8
TOTALS	52	21	11	84

average age of the mild group (average : 58 years, range 33 to 82).

Neurologic and Electroencephalographic Findings : As compared with the moderate and severe groups, the motor loss in the mild group tended to be less severe, as did the sensory changes and the EEG findings. There were also fewer associated field defects. The moderate and severe groups cannot be reliably differentiated for comparative degree of brain damage on the basis of these variables.

Disposition : Although many factors other than level of brain damage enter into the disposition, the latter undoubtedly plays an important part. The groupings can be most clearly differentiated on the basis of this factor. Of the 52 patients in the mild group, 35 went home, 9 were cared for by relatives, 7 went to nursing homes, and 1 died while in hospital. This death was attributable to myocardial infarction several months after admission. The trend in the moderate and severe groups was toward higher incidence of nursing home care, psychiatric hospitalization, and death. The deaths in the moderate and severe groups were directly related to the stroke. Psychiatric hospitalization in each instance was on the basis of organic dementia.

MILD DEFICIT GROUP (52 PATIENTS)

In these patients the stroke was experienced without any striking alteration in the general level of consciousness. In connection with the onset of a stroke there appears to be no direct awareness of any cerebral disturbance *per se*. Awareness of illness occurs as an indirect effect following upon the actual experience of sensory and motor dysfunction.

These patients were specifically questioned concerning their subjective experiences during the initial stages of the illness. Two general categories of response were noted :

In 30 patients there was immediate awareness of disordered function and rapidly thereafter insight into the nature of the illness and its possible implications.

Example 1 : When I got dressed I knew something was funny—I could not get my hand in my sleeve. As I got out of the cab I

fell and acted as though drunk. I noticed my speech was wrong. I knew I had a stroke. I was frightened.

In the remaining 22 patients awareness gradually occurred through repeated perceptual experience relating to manifest motor difficulty or on the basis of the patient's observations of the reactions of others to him. Eventual integration of the experience occurred.

Example 2 : I woke up in the morning—I tried to get out of bed. All of a sudden I was half paralyzed. I managed to walk downstairs. I wanted to cross the street and get something to eat. I could not think of anything. I thought perhaps it was a cold settling on my spine. When I talked to people they looked at me in astonishment. There was something wrong with my speech.

Example 3 : I was home—in the toilet—I came out and I fell—could not get up. I used my strength and went to bed. I walked (about 20 blocks) to the hospital. I know I was weak—could not stand up good—I heard about strokes—but did not believe I had one.

In the mild deficit group taken as a whole, the reaction to the illness occurs in terms of characteristic personality patterns and without obvious alterations stemming from the brain damage *per se*. In the examples given, idiosyncratic attitudes toward serious illness, physical handicap and possible death can be noted. These include feelings of helplessness and anxiety (Example 1), minimizing the event (Example 2), and denial (Example 3). Only 2 severe reactive states were noted in this group, both in the form of depression.

MODERATE DEFICIT GROUP (21 PATIENTS)

These patients showed an unevenness of performance during interview. A characteristic feature was various denial patterns in an interpersonal context in matters pertaining to the illness. Along with this was the relatively intact capacity to provide appropriate responses in other unrelated or more remotely related aspects of the patient's life.

Example 4 : Patient is a 58-year-old Negro female with a left hemiplegia. The onset of the stroke occurred at night. The patient awoke and was aware of feeling a strange and un-

attached arm lying in bed next to her. Her first thought was that it belonged to her dead husband.

When first seen in the hospital she was disoriented for time but not for place or person. She exhibited explicit verbal denial of disability. The following is a verbatim abstract from an early interview:

Q. Do you feel anything wrong? A. No, only a headache.

Q. Which is your left hand? A. This. (Makes no sign as to what she is referring to.)

Q. Show it to me. A. Here it is. (Reaches over to left hand with right hand without looking toward left side and with difficulty extracts arm from under bedclothes.)

Q. Is it O.K.? A. Yes, it feels O.K.

Q. Any weakness? A. No.

Q. Move your hand. A. Away up in the air?

Q. Yes. (Patient makes no attempt to move her hand.)

Q. Why don't you move it? (No reply.)

Q. Can you move it? A. Yes. (Still makes no move.)

Q. I don't believe you can move it. A. Yes, I can. (Heatedly, but makes no move whatever.)

Q. Well, go on—move your hand. A. I'll do it right now. I'll put my hand on my head. (No move.)

Relevant and appropriate responses were elicited when questioned about matters in her own past.

The patient presented a relatively uncomplicated and realistic personality structure. The Rorschach findings confirm the impression of stable and strong personal attachments and a strong sense of fulfillment and gratification in her role as a mother. She appears to have accepted her lot and to be mainly concerned with meeting the realistic problems of living.

The functional deficits noted in this patient included anosognosia, disordered sensation on the impaired side, and personification of the left upper limb. Her initial subjective reactions resulted in the notion that this strange detached arm lying in bed next to her was that of her dead husband. She was sufficiently convinced of this to fear having the lights turned on, but did not persist in her fantasy once the lights were turned on. The relief of anxiety in this instance was associated with disproving this feeling about her arm. The initial identification did not occur on the basis of wish-

fulfillment. It simply appeared to be a felt impression arising out of her own past experience of lying in close proximity to a bodily appendage that was not part of her own body, namely, the arm of her husband. The personification represented an integration at a concrete level of the current perceptual alterations with related aspects of her past experience. The illusory feeling that did persist was a true anosognosia—an unawareness that she was unable to move the arm, and, conversely, a belief that she could do so. The feeling of the patient in the course of these trials resulted in a false belief that she had very little capacity to correct. Questioning in areas unrelated to the illness elicited appropriate responses.

The type of performance described above is characteristic of the moderate deficit group as a whole. There is a clear awareness of the interpersonal situation as such. There is an awareness of the examiner as existing external to and independent of the patient. The appropriateness of response varies with the subject under discussion. When areas of illness and defect are impinged upon, there is a sharp drop to a concrete, stereotyped level of response.

SEVERE DEFICIT GROUP (11 PATIENTS)

In these patients the deficit was of a generalized nature, with gross defects in orientation, memory, confabulation and limited attention span. They tended to appear indifferent or apathetic to their surroundings and did not initiate conversation in the interview situation.

Example 5: Patient, a 55-year-old white male with a left hemiplegia, was disoriented for time and place. He confabulated freely and misidentified those about him. The following is from an early interview:

Q. What is wrong with you? A. I got a cold, sore throat. I haven't seen you for a long time. (The patient then muttered some reference to household expenses.) How are you making out with that place of yours up the street—that rooming house of yours?

Q. Who am I? A. You're the manager here of the hotel, aren't you?

Q. Can you move your arm and leg? A. Sure, enough to handle tools. (The patient was unable to move his arm on the paralyzed side.) Slowly they are coming out of it—it takes

practice. I haven't seen your wife since you—since I'm back.

Q. What is the name of this place? A. Continental Hotel.

Q. What is the date? A. Twelfth of November, Armistice Day, 859. (Actually September 12, 1958.)

When questioning was directed to his past life he confabulated freely and tended to misidentify the examiner as a participant in these past events. He appeared to respond to the visual and auditory cues of the interpersonal situation as if he were reliving past events, or, as if the interview simply served as a prop around which to objectify and externalize his own inner experience. Internal referents dominated responses both in regard to the current illness and his own past.

In this group the deficit was of such a generalized nature that there was little or no appreciation of the interpersonal situation as such, that is, as a new experience containing elements external to the patients themselves. These patients appeared to be experiencing a waking form of dream consciousness in which all stimuli from the outside are either not attended to or evaded; or, if attended to, are reacted to as if they arose from internal sources and had internal referents alone. When specific responses pertaining to the afflicted part can be elicited, as when a patient responds that his arm was removed by a saw, they appear to be the result of thought processes which are inductive and based on analogy. One aspect of an external situation usurps the field and by induction leads to a generalization which is externally and objectively false, but internally consistent with what the patient is experiencing at the time. In the example just cited there is a sense of unconnectedness with the paralyzed arm which is interpreted at a concrete and mechanical level as the arm being physically separated from the body by a saw.

DISCUSSION

In the brain-damaged patient with moderate or severe deficit, the setting in which motivational factors have to be evaluated is qualitatively different from what it is in the mild group. There is a flexibility of form in the latter, with appropriate shifts from

abstract to concrete attitudes guided by the needs arising in a given situation. With progressive functional cerebral impairment the role of personality factors recedes as a determinant of behavior, and the residual capacities shape the response in greater and greater measure. This shift is best characterized in terms of Goldstein's concept of loss of abstract attitude. In patients in the severe deficit group this shift was global and enduring; in the moderate deficit group there were fluctuating levels of performance relative to the demands of the interpersonal situation.

Confusion arises in connection with the use of the term "denial." In ordinary psychiatric usage, it refers to a specific psychodynamic mechanism designed to so influence the demands of the interpersonal situation in which the patient finds himself as to enable him to function without anxiety by selectively pushing out of awareness a painful or disturbing aspect of his own existence. Denial is a mechanism arising out of an interpersonal context in the first place and designed to operate in that context. Much of what is interpreted as denial in the brain-damaged patient is such only when judged by the standards of normal waking behavior. When judged from the point of view of the patient and the level at which he can relate to the environment, the concept of biological avoidance appears to be a more felicitous designation, as it places the emphasis not on a need to deny, but on the reorganization of the self in relation to the stimuli impinging on it. Central to this whole discussion is the phenomenon of anosognosia(3). To think of this in denial terms implies an awareness by the patient of the deficit or defect and the denial of it to avoid anxiety. Admittedly this occurs in many patients in a later or recovery phase of the illness. The clinical impression one so often encounters in the initial phases, however, with these patients, is that the affected part drops out of awareness and in the reorganization that follows a kind of congealing process takes place based on the remembrance of the part. He appears to deny the existence of the limb or its dysfunction, but what he is actually doing is restricting his perceptual experience in line with what he now believes is his real situa-

tion. The factors operating to limit his awareness exist apart from the interpersonal context. He is not using denial as a psychodynamic mechanism, but as a convenient way of explaining certain felt reactions. The patient is encountering difficulty in relating to the deficit because of his incapacity to adopt the abstract attitude. It is only by means of the latter that he could link the defect to the rest of his existence in time and space. Instead, he deals with it at a concrete level by so ordering the external environment as to avoid reference verbally or in practice to the defect. The crucial question concerns the capacity of the patient to be aware of the defect and not an awareness that is suppressed in the service of avoiding anxiety. What emerges as apparent denial is the effort to cover up the areas of unawareness as these are encroached upon by the environment. The anxiety level becomes a function of the relative success the patient has in covering up or avoiding involvement in the deficit.

SUMMARY

The individual who has had a stroke is reacting to a situation of stress that has many unique features. Patients who have

experienced mild strokes with little or no residual mental impairment react to the stress in their own idiosyncratic fashion. Some will intergrate the experience successfully; others will become enmeshed in psychopathological manoeuvres of varying severity. In patients with moderate or severe brain damage, the situation is quite different. Here the unique features of the stroke are highlighted, the chief of these being that the very organ governing the adaptation to stress is itself impaired. The resulting clinical picture has to be evaluated now, not only in terms of what the experience means to the patient, but also in terms of the capacity the patient has for evaluating the situation.

BIBLIOGRAPHY

1. Goldstein, Kurt: *The Organism: A Holistic Approach to Biology Derived from Pathological Data in Man*. New York: American Book Company, 1939.
2. Weinstein, Edwin A., and Kahn, Robert L.: *Symbolic Reorganization in Brain Injuries*, in *American Handbook of Psychiatry*. New York: Basic Books, Inc., 1959.
3. Ullman, Montague, and Gruen, Arno: *Arch. Neurolo.*, 3: 306, 1960.

ROLE: A CONCEPT LINKING SOCIETY AND PERSONALITY

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Whereas biological, primarily somatic concepts (*i.e.*, humors, libido, instincts) have served medicine and medical psychology traditionally from Hippocrates to Freud, psychiatry today is increasingly confronted with concepts of a different order, derived by social scientists in the systematic study of social life, which present new perspectives for understanding human motivations and behavior. Inasmuch as attention to the work of fellow scientists is likely to contribute to progress in related fields of scientific endeavor, the discussion which follows is offered to a psychiatric audience.

The purpose of this review is to consider the development of a central, and perhaps integrative, concept in social and psychological science which has attracted steadily increasing attention in recent years: the concept of role. We shall begin theoretically and then proceed to some—by no means complete—implications and applications of role theory. In the theoretical part it may not be possible to avoid level-jumping (attempts to “physiologize” psychology or “sociologize” physiology). But, in the present state of our knowledge, this is hardly a serious crime simply because boundaries have not been sharply drawn and there is as yet no strict definition of the phenomena delimited by the fields of psychology, sociology, anthropology and psychiatry. It would appear that social scientists and psychiatrists look at the same data, but through different lenses.

STATUS AND ROLE

Ralph Linton introduced and defined the inter-related concepts of status and role in his anthropological text, *The Study of Man*, in 1936(6). Although social structure concepts have been employed by social scientists for a hundred years and have been used analytically by them for the past 25 years, psychiatrists have become aware of their usefulness only recently(5, 9). The

concepts of status and role, as Linton originally defined them, are relatively pure concepts delimited within a sociological frame of reference but, by virtue of their gradually increasing application, status and role have acquired a multiple relevance—a process not unlike cultural diffusion—in sociology, social psychology, and, more recently, in psychiatry. The concept of role has proved to be an increasingly useful and enlightening concept. Perhaps it may be shown to be a point or articulation between the areas delimited as the sociological (or what goes on outside a person) and the psychological (or what goes on inside a person) theoretical levels of analysis.

In a discussion of science and concepts, a simple definition of the term “concept” is offered by Chinoy who states “. . . a concept is a general term that refers to all members of a particular class of objects, events, persons, relationships, ideas—of any kind of unit or entity”(3). A concept, therefore, serves an organizing function, and science may be defined as the study of the relationships between phenomena or the concepts by means of which phenomena are expressed.

The status concept is fundamental to a conceptual grasp of role. Actually, status and role are inseparable and can be taken apart only for purposes of definition. In this connection, Parson's hyphenated term “status-role” is expressive(10). The functioning of society depends upon the presence of patterns for reciprocal behavior between individuals or groups of individuals. Patterns for reciprocal behavior are socially institutionalized (formalized) as status-role. Linton defined status as a position in a particular pattern which is “. . . distinct from the individual who may occupy it . . . (and) a collection of rights and duties”(6a). In this sense, status can include the “sum total of all the statuses”(6b) which an individual occupies. (This generalization to status has recently been particularized by Merton(8) who employs the term *status set* to refer to the multiple statuses an individual oc-

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cupies and the term *status sequence* for the chronological and developmental statuses which a person occupies through the life cycle.) "Thus," wrote Linton, "the status of Mr. Jones as a member of his community derives from the combination of all the statuses which he holds as a citizen, as an attorney, as a Mason, as a Methodist, as Mrs. Jones' husband, and so on" (6c). Having defined status, then, we can now view role as *status in action*. In Linton's words, "A role represents the dynamic aspect of status" (6d). Thus, what Mr. Jones *does* as a citizen, as an attorney, a Mason, a Methodist, as Mrs. Jones' husband, *etc.*, carries status into action and constitutes *role*. Thus, status and role function to reduce cultural patterns to individual expression.

Status and role, or status-role, can be socially *ascribed* or *achieved*. As Linton states, "The individual is socially assigned to a status and occupies it with relation to other statuses. When he puts the rights and duties which constitute the status into effect, he is performing a role" (6e). Obviously, a person *occupies* a status with its corresponding set of rights and duties, while he *performs* a role which is, then, normative behavior.

Status-role provides a means by which society socializes and "educates"—or organizes—its members. Roles become models by means of which the attitudes and behavior of an individual are made congruous with those of other individuals participating in the cultural pattern. Members of a society are recruited into roles via socialization processes which begin at birth, or soon thereafter, and continue throughout the life cycle in a manner reminiscent of Jacques' speech in *As You Like It* which begins: "All the world's a stage, and all the men and women merely players . . ."

REFERENCE POINTS

All societies use certain reference points for the ascription of status. Linton pointed out that such reference points are ascertainable at birth and he listed *sex, age, family relationships* (such as that of child to mother, uncle to nephew, *etc.*) and birth into *class* or *caste* as the important ones (6f). "In all societies the actual ascription of statuses to the individual is controlled by

a series of these reference points which together serves to delimit the field of his future participation in the life of the group" (6g). Action, therefore, and personality development (learning how to act) occur, to a large extent, within the confines of ascribed status and role. They differ widely from culture to culture and change with the times in any particular culture. The delicate, fainting lady of the late 19th century, as a cultural type, is as extinct as the dodo (6h). Approaching extinction also are the "classical" symptom neuroses, *grande hystérie*, and other forms of hysteria studied by physicians from Hippocrates to Freud and upon which Charcot, Breuer and Freud developed basic concepts of modern psychiatry. Expressions of the sick-role change with culture changes, even in the short space of two generations. (The relation of character change to culture change and the impact on psychiatric practice is discussed in detail by Allen Wheelis in his recent book) (13).

"Room to move around" is provided in most societies by the device of *achieved* status. Although most of the statuses in all social systems are ascribed, status can also be *achieved*. The day-to-day living of people in a society is largely handled by means of ascribed statuses which take no account of individual differences, qualities, abilities. As Linton says, "Most of the business of living can be conducted on a basis of habit, with little need for intelligence and none for special gifts" (6i). However, a person may employ his special qualities in a competitive effort to acquire *achieved* status which is left open in a society and is not assigned at birth. Although one's status-role in a particular family in a particular society may be largely *ascribed* by means of reference points of age, sex, class, and family relationships, other status-roles which a person occupies can be *achieved*, especially in other societal sub-groups, such as the work-group or the community, utilizing different reference points. For example, a 22-year-old male may be Mrs. Jones' son in a middle-class American family, but he may also be captain of the football team, or a junior executive, and husband and father in a community quite different in social class from the original Joneses.

ROLE BEHAVIOR

Status is a social structure concept inseparably related to cultural reference points of age, sex, class, or caste, sub-group membership (*i.e.*, family) *etc.* But status—the “collection of rights and duties” (rules of the game)—which may be occupied by a person can only find *expression* through the medium of personal, or so-called “individual” action. Status carried into action (role) constitutes observable and describable behavior. Role behavior can be studied and defined by means of controlled observation. Argyle(2), observes :

There may be said to be a *role* in the social structure sense when the behavior of occupants of a position . . . is modally distributed for a situation, or a class of situations or for each of several classes of situations, and if the mode differs significantly from those of adjacent positions. If the actual behavior of an individual is sufficiently similar to the modal behavior—say within one S.D.—it may be said to be *role-behavior* ; this is a psychological concept, whereas role is a sociological one.

Twenty-five years ago, Allport(1) in deriving the J-curve hypothesis of conforming behavior, studied the distribution of behaviors in various situations : motorists stopping (or failing to stop) at traffic signals, time of arrival at work of factory employees, and the behavior of Catholic parishioners in stopping—or not stopping—to dip their fingers in holy water and make the sign of the cross. He concluded :

From the data so far obtained, it therefore appears that when we plot the distribution of behaviors in a situation where individuals are said generally to conform, we find the following condition : Rarely, if ever, do we find that all the individuals conform completely. A varying number conform only in partial degree. The proportions of these are distributed in a diminishing fashion as we proceed to the wider variations in the modal act. Their degree of diminution, moreover, becomes less as we proceed out toward the deviating extreme (1a).

Rather than the usual bell-shaped, normal probability distribution, Allport's data yielded a skewed curve which he called a “double J” or a curve with a single mode.

His work has been followed by a number of other studies employing controlled methods of observation to describe and discover standard modal behavior and the frequencies of behaviors deviating therefrom. Allport's data and that of others (for example, Dudycha's study(4) of the punctuality of college students in a variety of situations) show that most people do what they are taught to do (*i.e.*, punch the factory time-clock at 7 a.m., get to class on time), that is, their behavior would fall under the narrow peak in the “double-J” curve, whereas the partial conformers (called deviants or innovators according to one's point of view) are distributed in diminishing numbers outward toward the extremes from the modal act. The “double-J” curve of conforming behavior seems to typify the distribution of behavioral phenomena which involve learning. On the other hand, if we were to take the same subjects (factory workers, drivers, parishioners, college students) and measure certain unlearned, biological, characteristics such as height, length of bones, *etc.*, we would derive a bell-shaped, normal probability curve. Evolutionary biologists, following Darwin, have observed that variation is one of nature's strong points, perhaps even accounting for the survival of living forms in the struggle for existence. It might be said that social organization, borrowing no wisdom from biology in this regard, limits behavioral variation through conformity control and tends to press behavior into a narrow, modal, range.

SOCIETY AND PERSONALITY

The foregoing sections appear to make sense in a sociological frame of reference. And yet the term “psychological” has been used a number of times as if sociological and psychological frames of reference could overlap, superimpose, or in some other way, blend without loss of conceptual clarity. Such unification, of course, presents many unsolved theoretical problems. But perhaps an approach to integration can be made through the role concept. In the preceding section we tried to answer the question : Through the concept of role can we link so-called individual behavior, studied psychologically, with positional and situational

factors, studied sociologically? We now turn our attention to the question: Can the concept of role provide a point of articulation between the psychological and the sociological theoretical levels of analysis?

In defining the "three aspects of the structuring of a completely concrete system of social action" consisting of the *personality system*, the *social system*, and the *cultural system*, Parsons (10a) points out that, although inter-dependent and interpenetrating, one or the other system is not reducible to terms of one or a combination of the other two. He refers here to the "action" frame of reference. Parsons' concept of action cuts across, and is common to, all three systems (personality, social, and cultural) permitting certain transformations or translations between them but not providing a unified, or single system, theory of behavior—although he does not rule out the possibility of such unification on "some other theoretical level." The role concept also enables us to make translations between events in the sociological and in the psychological systems.

It appears feasible, with present knowledge, to view *role* (an element of organization in the social system) as significantly related to *ego* (an element of organization in the personality system). Relations between these concepts were, of course, anticipated by G. H. Mead in his concept of role-taking (7) and have been developed by other social scientists, psychologists, and, quite recently, psychiatrists (5). The psychoanalytic theory of object relations may prove useful in developing our understanding of the relations between ego, as a unit of the psychological system, and status-role, as a unit of the social system. The system of social relationships in which a person is involved is not only of situational significance but through "internalization" (or, better, *learning*) becomes constitutive of the personality itself. For example, it is generally agreed that the superego represents the internal reflection of moral commandments which are a part of the surrounding culture. It seems logical to assume that roles available in a culture are, similarly internalized (or learned), becoming part of the ego: the sense of "I," or "who I am and how I act." Such considerations militate

against explanations of individual behavior which rest solely upon organismic or mentalistic concepts and fail to take into account related social concepts which focus the organized social situation with which the "organism" interacts. We note today that, as this situational impingement upon personal behavior is increasingly comprehended, the inclusive explanatory power of 19th century physiological (*i.e.*, neuronal) and early 20th century psychological (*i.e.*, id-ego) concepts decreases. Is it more pertinent, we may ask, to study a behaving person as a hierarchy of reflexes, a repository of repressed impulses, or as an experiencing, transacting, learning *being* in a cultural situation? The latter model moves away from cross-section toward a longitudinal perspective of personality as a process of *being* in transaction with objects in socio-historical time: physical objects, social objects, and cultural objects (chairs, people, roles, beliefs, value patterns). Acting human beings are caught up in a world of defined behavior patterns with their corresponding normative orientation—a social world which not only affects but is affected by the people who participate variably in its patterns of living.

SOME IMPLICATIONS AND APPLICATIONS

No attempt can be made here to assess the impact of sociological thinking upon psychology and psychiatry in recent years, nor can we cite inclusively the work which has been done even in what might appear to be the relatively circumscribed area of role. However, we may single out for brief attention certain aspects of

1. Talcott Parsons' concept of the "sick" role in our society and some of the findings in regard to the psychiatric sick-role reported by Hollingshead and Redlich in their recent book, *Social Class and Mental Illness*, (5) and

2. T. Sarbin's concept of hypnotic role-taking.

Parsons formulates 4 institutionalized norms which characterize the roles of sick persons in our society:

1. First, is the exemption from normal social role responsibility . . .
2. The second closely related aspect is the

institutionalized definition that the sick person cannot be expected by "pulling himself together" to get well by an act of decision or will.

3. The third element is the definition of the state of being ill as itself undesirable with its obligation to want to "get well."

4. Finally, the fourth closely related element is the obligation . . . to seek *technically competent* help, namely . . . that of a physician and to *cooperate* with him in the process of trying to get well (10b).

Even a superficial glance at these norms gives one the impression that they are more appropriate to organic illness than to the functional disorders which comprise the bulk of psychiatry. Hollingshead and Redlich, in their research in the New Haven community, studied their application to psychiatric disorders and found: "... first, that most persons with neuroses are not exempted from normal social obligations. . . . Psychotics in all classes, however, are exempted from social obligations . . ." (5a). From this it would appear that the duties of one's role, in our society, cannot usually be abrogated for nervousness but *can* be abrogated for craziness. If this is true, there is no reason to doubt that both nervous people and "crazy" people in our society have learned this "rule of the game." It is quite possible, in fact, to view a psychosis as a most effective way of abrogating intolerable role expectations imposed upon a learning child by a psychotic, or potentially psychotic, parent.

Hollingshead and Redlich observe that most persons with neuroses are not released from normal social obligations; obviously, however, as they imply, some so-called neurotic people are. The social situation, and the individual's perception of it, both make a difference. For example, a patient may obtain prolonged hospitalization (in a general or psychiatric hospital) for the treatment of a psychoneurosis with corresponding exemption from social role responsibilities. However, an attending physician, or other professional employee on the staff of the same hospital, although he may be suffering from symptoms clinically similar to the patient's, will be expected to perform the daily duties of the work role. The patient permits himself to be socially de-

fined as a *patient*—by applying for help—with corresponding exemption from social responsibilities, whereas the professional employee, taking the role of a helping person, avoids being defined as one who needs help. Moreover, the implication here is that one takes the sick role at one's peril. This is the case because, in spite of the fact that in the sick role a person is not held responsible for helplessness, psychiatric help-seeking has negative connotations in our society nevertheless and may even affect other people's perceptions of one's achieved status. This is not the place, however, to discuss the connection between neurotic symptoms and the avoidance of felt obligations. Suffice it to say that exemption from social responsibility is the core of the sick role² and psychiatric help-seeking is not without its price.

3. Role-perception has been defined as the conscious recognition of the kind of behavior which will be approved in a certain role. According to Argyle, (2a)

When role perception is a major factor in behavior, the behavior is often called *role playing*. This covers all cases of acting, imitating, deliberately conforming, and in general creating the impression of being the occupant of a certain position, or creating certain perceptions in the audience.

T. Sarbin, whose research in hypnosis bears upon role theory, sees a close similarity between hypnotic behavior, which he defines as hypnotic role-taking, and the on-stage behavior of the dramatic actor (11). He has developed a socio-psychological concept of hypnotic behavior, concluding that the automatic behavior of the hypnotic subject is a form of role-taking which is congruent with the subject's self-concept; that is, the subject, like a dramatic actor, *wants* to perform the role of the hypnotized subject as he perceives it.

If the subject has an adequate perception of the role, if this perception is not incongruent

² Actually, chronic utilization of the sick-role (chronic functional illness, exaggeration of minimal organicity, "compensation neurosis" etc.) serves an exemption broader than that defined by our technical concepts, namely, exemption from self-responsible action and its correlates of initiative and integrity.

with his self-perceptions, and if he has an appropriate amount of the role-taking aptitude, then he will produce all the dramatic phenomena of hypnosis merely because "the operator talks to him" (11a).³

Sarbin defines the congruence of role and self-concept as favorable motivation for the hypnotic and dramatic situations, pointing out that both dramatic and hypnotic roles are dependent upon it. "The chief difference," he observed, "in the two forms of role-taking was the degree of participation of the self in the role (levels of consciousness)" (11b). The stage actor is more fully conscious of his role than the hypnotized subject although some actors "lose themselves" in their parts more than others do. Where role perception is a major factor in behavior (as in hypnosis, acting, children's play, and perhaps hysterical and other behaviors sometimes colloquially referred to as "phony,") we are dealing with "as if" behavior in Sarbin's formulation. "As if" behavior is characterized by a high imaginative component. As such, it may appear to possess a certain "external" reality creating the approved impression in an audience, but emotional investment and depth are lacking, indeed, conflictual. That is to say, these roles are performed, or played with more or less emotional disengagement.

SUMMARY

The concept of role is considered to be a focal concept derived in the scientific study of social life to which social scientists and

psychiatrists are increasingly turning their attention. A brief review of the development of this concept has been presented and attention called to its possible integrative function in the study of sociological and psychological phenomena. Some implications and applications of role theory are briefly discussed.

BIBLIOGRAPHY

1. Allport, F. H. : *J. Soc. Psychol.*, 5 : 141, 1934. (a) p. 154.
2. Argyle, M. : *The Concepts of Role and Status*. In Halmos, P., and Iliffe, A., Ed. : *Readings in General Psychology*. New York : Philosophical Library, 1959, p. 188. (a) p. 191.
3. Chinoy, E. : *Sociological Perspective*. New York : Random House, 1954, p. 3.
4. Dudycha, G. J. : *Arch. Psychol.*, 29 : 204, 1936.
5. Hollingshead, A. B., and Redlich, F. C. : *Social Class and Mental Illness*. New York : Joan Wiley & Sons, Inc., 1958. (a) p. 352.
6. Linton, R. : *The Study of Man*. New York : Appleton-Century-Crofts, Inc., 1936. (a) p. 113. (b) p. 113. (c) p. 113. (d) p. 114. (e) p. 114. (f) p. 116. (g) p. 116. (h) p. 116. (i) p. 115.
7. Mead, G. H. : *Mind, Self, and Society*. Chicago : Univ. of Chicago Press, 1934.
8. Merton, R. K. : *Social Theory and Social Structure*. The Free Press, 1957.
9. Myers, J. K., and Roberts, B. H. : *Family and Class Dynamics in Mental Illness*. New York : John Wiley & Sons, Inc., 1959.
10. Parsons, T. : *The Social System*. Glencoe : The Free Press, 1951, p. 25. (a) p. 6. (b) p. 436-437.
11. Sarbin, T. R. : *Psychol. Rev.*, 57 : 255, 1950. (a) p. 268-269. (b) p. 269.
12. Szasz, T. S., and Hollender, M. H. : *A.M.A. Arch. of Int. Med.*, 97 : 585, 1956.
13. Wheelis, Allen : *The Quest for Identity*. New York : W. W. Norton & Co., 1958.

³ If we apply here the activity-passivity model of the hypnotic situation described by Szasz and Hollender (12), the hypnotic subject, who perceives his role to be characterized by powerlessness, wants to have something done to or for him by a role-taker to whom he attributes power.

THE OBSESSIONAL PERSONALITY AND OBSESSIONAL ILLNESS

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The obsessional personality was originally a description of premorbid personality characteristics in obsessional patients. The description was widely accepted and came to be applied to a wide range of people; it is now used to describe a type of personality whose possessors are said to be subject not only to obsessional illness but to depressive and anxiety states. With this widening of its scope has come a looseness in its usage. The term "obsessional" is used to describe both symptoms and personality traits, and often a person will be labelled obsessional on the strength of a single characteristic so that, to take an example, to be punctual is to be obsessional.

Despite its extensive use and misuse the description, even in its restricted use, has not been without critics. Freud(2) formulated his own anal-erotic character to describe the premorbid personality of obsessional patients and Lewis(7) noted other characteristics. A descriptive study of a series of obsessional neurotics provided the opportunity to re-examine these different points of view in their original context and assess their validity.

The three different descriptions of the premorbid personality in use must be examined in more detail. They are the conventional obsessional personality, the anal-erotic character of psychoanalysis and the typology introduced by Lewis.

The existence of the "obsessional personality" is widely accepted in English speaking psychiatry and is the most used of these descriptions. At the beginning of this century Kraepelin(6) wrote of the pedantry and concern over trivialities in the premorbid personality of obsessional patients, and Janet(4) described the accepted picture at length. The traits usually included in the description are: "excessive cleanliness, orderliness, pedantry, conscientiousness, uncertainty, inconclusive ways of thinking and acting; perhaps also a fondness for

collecting things, including money; sexual disturbances, though not of any characteristic sort, are common." (Lewis, 8).

A rough-and-ready, practical description of this kind is open to criticism on the grounds of imprecise definition of its component traits and lack of proof of their co-existence. Lewis(7) noted that the traits could be restricted to one field and absent in another: a person might be over-orderly but not scrupulously clean and not a collector. He did not consider the evidence for the obsessional personality complete and substituted his own typology. Nevertheless, 7 out of 8 British and American textbooks describe an obsessional personality in terms similar to those above.

The anal-erotic character was first described by Freud(2) in 1908 as a "triad of characteristics which are almost always to be found together—orderliness, parsimoniousness and obstinacy." This personality profile differs in its aetiological assumption that the character arises from the dissipation of anal-eroticism. In its descriptive aspects it differs little. Usage of the term has been analysed and contrasted with current usage of the term "obsessional personality" in a previous paper(3). The content was found to differ only in emphasis. For descriptive purposes there is no point in distinguishing them. Here the term "obsessional personality" is preferred, being purely descriptive and without aetiological assumptions, but the results could apply equally to the anal-erotic character.

The third description was given by Lewis and arose from his dissatisfaction with existing ones. In chronic severe obsessional patients he observed two types of personality—one "obstinate, morose, irritable," the other "vacillating, uncertain of himself, submissive." His typology applies to personality in a restricted group of patients and has not been extended and generalised as has the obsessional personality.

For the present purposes then, only two descriptions need be considered—the conventional one and that of Lewis. What

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information is already available about their quantitative relation to obsessional illness?

Correlations between personality traits and the type of symptom shown were calculated for 400 mainly neurotic patients by Slater(11). The highest correlation ($r=0.76$) was between obsessional traits and symptoms, other correlations ranging from 0.5 for both hysterical and paranoid traits to 0.39 for depressive and 0.19 for hypochondriacal traits. This suggests that personality and illness are more closely related in obsessional than in other illnesses. Of the 120 obsessional patients investigated by Rüdin(10) 60% were insecure (*selbstunsichere*) personalities before the illness, 30% were not, and 10% had compulsive traits in childhood but no other personality deviation prior to the onset of symptoms. Müller(9) confirmed the absence of the obsessional personality in some of his series of obsessional patients, but considered that the more severe the abnormality of personality structure the more severe was the course of the illness.

Lewis(7) gave figures neither for the conventional obsessional traits nor for his own typology in his 50 patients but thought that the personality might be as common in other groups of psychiatric patients since one third of his depressive patients showed obsessional traits and an even higher proportion of those with agitated depression.

While there is evidence that obsessional personality traits are of frequent occurrence in obsessional illness, there is a dearth of information on the incidence of the personality traits Lewis put forward and no comparisons of the two have been made.

METHOD

In the course of a study of the natural history of obsessional illness in 89 inpatients of a mental hospital, ratings were made of the premorbid personality as described by the patients and their relatives. These patients were divided diagnostically into a nuclear group showing obsessional and compulsive symptoms in a sustained symptom complex with no evidence of psychotic disturbance of thought or mood, or organic nervous illness. Other groups comprised those with no compulsive actions (phobic ruminative group), those in which the pos-

sibility of schizophrenia had been considered but rejected, those with depressive features, and a miscellaneous group where obsessional symptoms were associated with other illness, notably organic nervous disease.

For the present purpose the total group of patients with predominantly obsessional symptoms will be divided into two, the "nuclear" group of typical obsessive-compulsive states being separated from the others.

The list of obsessional characteristics given by Lewis was used and patients were rated for the presence or absence of each of: excessive cleanliness, orderliness, pedantry, conscientiousness, uncertainty, inconclusive thinking and acting, and fondness for collecting things. "Marked obsessional traits" represents the presence of 5 or more of the 7, "slight" the presence of 2 to 4, and "not obsessional" the presence of none or only one of those mentioned. In each case an estimate was made of the applicability of each of Lewis's two descriptions. All these ratings were based on observations by psychiatrist and relatives and not on the patients' accounts alone.

In 12 cases the age of onset was so early that no adult premorbid personality could be said to have existed, and these were omitted. Of the remaining 77, 31 were "nuclear" cases.

RESULTS

Only 12 of the 77 (16%) show no obsessional personality traits (Table 1). Sixty-five

TABLE 1
INCIDENCE OF OBSESSIONAL TRAITS

	Nuclear Group	Others	Total
Not obsessional	4	8	12
Slight obsessional traits	17	24	41
Marked obsessional traits	10	14	24
Total	31	46	77

(84%) show at least two and 24 (31%) show more than five. Of these patients with severe chronic obsessional illnesses the majority have shown traits of the obsessional character prior to illness and the various items making up the obsessional character are frequently associated in the one person.

The incidence of obsessional traits in the nuclear group of typical obsessive-compulsive states is no different from that in the rest of the group.

Only 30 of the 77 (39%) have one of the personality types proposed by Lewis; the majority cannot be described in this way (Table 2). In the 31 severe obsession-com-

mon as "obstinate, morose, irritable" personalities, and 18 of the 20 show obsessional traits.

DISCUSSION

The expectation that severe cases, such as made up this series, would show frequent anomalies of personality structure is supported by the results. The obsessional personality traits are widely applicable to these patients. One of Lewis's objections to their use was the lack of evidence that they cohere; that a third of the patients show 5 or more of the 7 examined is proof that they do cluster together.

In these quantitative terms the conventional traits are twice as applicable as the two types of Lewis. However, Lewis described his types as occurring in chronic severe obsessionals who had shown symptoms since childhood. While this group is without doubt chronic and severe, the 12 cases who showed symptoms from childhood were excluded. This was done in order to obtain an account of personality prior to illness; for if an attempt is made to measure traits in the presence of illness the borderline between them becomes difficult to demarcate. It is difficult to decide when uncertainty and vacillation become pathological, when orderliness and a need to check become ritual, and so on. The decision to assess personality only prior to illness was the only means of avoiding this problem. If the terms used by Lewis have any value as descriptions of personality they should be discerned in severe and chronic patients before illness; if they have not, they may originally have been descriptions of symptoms rather than of personality.

They are applicable in 40% of the patients. While not so prominent numerically as the conventional traits, their importance may lie in distinguishing different kinds of obsessional personality.

In contrasting the obsessional personality as described in 8 British and American textbooks with the anal-erotic character as described by Freud(2), Jones(5) and Abraham(1), the differences in emphasis were interpreted in terms of the success or failure of the integration of the traits into the total personality(3). The trait of orderliness, for instance, can

TABLE 2
INCIDENCE OF TRAITS DESCRIBED BY LEWIS

	Nuclear Group	Others	Total
Obstinate, morose, irritable	4	6	10
Submissive, vacillating, uncertain	8	12	20
Neither applicable	19	28	47

pulsive (the nuclear group) cases there was no suggestion that these types of character were more often present than in the rest of the group. In this group of patients the personality types of Lewis are not so applicable as the accepted traits.

The two methods of describing personality overlap (Table 3). The "uncertainty"

TABLE 3
RELATION OF LEWIS'S TYPES TO OBSESSIONAL
PERSONALITY TRAITS

	Obsessional Traits		
	None	Slight	Marked
1. Obstinate, morose, irritable	1	8	1
2. Submissive, vacillating, uncertain	2	9	9
Neither applicable	9	24	14

and "inconclusive thinking and acting" items of the obsessional personality appear as "vacillating, uncertain" in the second of Lewis's types. This is reflected in the closer connection between obsessional traits and the "submissive, etc." group. The number of patients showing obsessional traits and also belonging to one or other of the Lewis types (27 out of 30) is significantly higher than the proportion (38 out of 47) of those showing obsessional traits in which neither Lewis type is applicable ($X^2=6.3$; significant at 0.02 level). "Submissive, vacillating and uncertain" personalities are twice as com-

be used successfully. Failure may be of two kinds: in one the patient suffers, in the second others suffer. One person may make his life a torment by his adherence to order, another may pride himself on his orderliness, imposing his standards on others and making them suffer. It was found that the psychoanalytic authors used terms implying success or a failure to get on with others (*e.g.* obstinate, power-loving, pedantic, avaricious). The obsessional personality descriptions laid more emphasis on the other type of failure: that in which the person suffers (*e.g.* indecisive, conforming, submissive).

Examining the two sets of terms used by Lewis it is clear that "obstinate, morose and irritable" are words implying that others suffer, while "submissive, vacillating uncertain" imply suffering for the patient. The division between them corresponds to the two types of failure already outlined. Their relative incidence is therefore of some interest.

Those who suffer are twice as common in this series as those who make others suffer. From a psychopathological view this is easily explained. The two forms of behaviour represent different methods of dealing with the same anxiety and insecurity, but making others suffer is more likely to be successful in avoiding neurosis than suffering oneself. One might be called psychopathic behaviour, the other neurotic. Accordingly those who suffer from their traits will be overrepresented in a series of obsessional patients. To establish this with certainty it would be necessary to have information about the incidence of the two types in the normal population.

SUMMARY AND CONCLUSIONS

An examination of pre-morbid personality in 77 inpatients with severe obsessional

states shows that obsessional personality and illness are intimately connected and that the conventional obsessional traits, present in 84% of the group, justify their general acceptance when re-examined in their original setting. The description by Lewis of "obstinate, morose, irritable" and "submissive, vacillating, uncertain" types was applicable in only 39%, but the results suggest that certain obsessional traits may predispose to obsessional illness more than others.

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BIBLIOGRAPHY

1. Abraham, K.: Contributions to the theory of the anal character, 1921. In *Selected Papers*, Hogarth Press, 1949.
2. Freud, S.: Character and Anal Erotism, 1908. *Collected Papers*, Vol. 2, Hogarth Press, 1924.
3. Ingram, I. M.: *J. Ment. Sci.* (To appear).
4. Janet, P.: *Les Obsessions et la Psychasthénie*. Ed. 2, Paris, 1908.
5. Jones, E.: Anal-erotic character traits, 1918. In *Papers on Psychoanalysis*. 5th Edit. London: 1950.
6. Kraepelin, E.: *Lehrbuch der Psychiatrie*. Leipzig: 1912.
7. Lewis, A. J.: *Proc. Roy. Soc. Med.*, 29: 325, 1936.
8. Lewis, A. J.: *Practitioner*, 141: 21, 1938.
9. Müller, C.: *Nervenarzt*, 24: 112, 1953.
10. Rüdin, E.: *Arch. Psychiat. Nervenkrank.* 191: 14, 1953.
11. Slater, E.: *J. Neurol. Neurosurg. Psychiat.*, 6: 1, 1943.

CARDIAC ARREST AND ELECTROSHOCK THERAPY

GENEVIEVE A. ARNESON, M.D., AND TARVER BUTLER, M.D.¹

Over the past 5 years at Charity Hospital we have had 3 deaths attributed to electroshock treatment. This represents a mortality rate of 0.15% per patient and 0.015% per treatment. Two of the deaths were definitely felt to be secondary to cardiac arrest.

Although the mortality rate is extremely low with EST, cardiovascular deaths usually head the list, followed by cerebral and respiratory deaths. Following our first cardiac arrest, a thoracotomy set was made available in our EST treatment room. The following case report involves a cardiac arrest following EST which was treated with direct, manual cardiac massage.

Case Report.—A 24-year-old C.M. admitted to Charity Hospital on February 4, 1960, had a 3 week history of "nervousness," inability to sleep, feelings of unreality, ideas of reference, persecutory delusions, multiple, bizarre somatic complaints, and auditory hallucinations. Diagnosis was acute schizophrenic reaction, paranoid type. This was the patient's first episode of overt psychiatric illness. Physical examination including routine laboratory examinations, chest and spinal x-rays, and electrocardiogram were reported as within normal limits. On February 27 the patient was started on a course of EST. Each treatment was preceded by routine medication of 2 mg. levo-hyoscyamine (Bellafoline®), intramuscularly. After the 3rd treatment he complained of midback pain. Although spine x-rays were negative, he was commenced on 15 mg. Anectine i.v., with succeeding electrical treatments. By March 28, 1960 he had received 16 treatments with good improvement. On this date the patient received his 17th treatment. He appeared to recover and respond in the usual manner following the treatment, and he was taken to the recovery room. About 20 minutes later when the aide attempted to rouse the patient for return to the ward, he responded briefly and then became unresponsive and apneic. Immediate steps were taken to establish an airway and begin artificial respiration, while the patient's personal physician was called. The doctor came immediately but by this

time at least 10 minutes had elapsed. The patient had no pulse. Because of the initial excitement and confusion getting artificial respiration started, we had no idea exactly how long he had been in cardiac arrest so that immediate thoracotomy was instituted. The heart was found to be in asystole and cardiac massage was begun. A few minutes following massage, a weak, but spontaneous heart returned. Shortly afterwards an intravenous saline drip was started and ephedrine was given i.v. The heartbeat became stronger and more regular. An intra-tracheal airway was inserted and patient was respired with the bag breathing apparatus. Spontaneous respiration did not return although the heart continued beating. After 2 hrs. he was transferred to a Drinker respirator. Spontaneous respiration never did return and it was apparent that the respiratory center had sustained irreversible damage secondary to cardiac arrest and the accompanying anoxia. An EEG taken on the patient at this time was reported as, "compatible with non-functioning of the cerebral cortex." The patient died approximately 12 hours after thoracotomy. The gross post-mortem examination was negative except for the results of thoracotomy, tracheotomy, manipulation of the chest wall, and massage of the heart.

DISCUSSION

Neither of our patients was considered a "poor risk" patient and a number of "poor risk" patients have received EST without incidence. In our experience, the fact that a patient is in apparent good physical health, free of any cardiovascular disease or abnormality, does not mean that he may not suffer a cardiac arrest associated with EST, or on the other hand, a "poor risk" patient is any more prone to this catastrophe.

This brings up the possible physiological mechanisms for the cessation of the heart beat during this type of treatment and possible prevention of it.

There is no question that the grand mal seizure following the electrical stimulation of the brain in EST is accompanied by a marked vagal discharge. Richardson, *et al.*, (6) report vagal arrhythmias in 30% of patients receiving EST under anesthesia. On

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EKG tracings these were characterized by marked slowing and occasional standstill of the heart. However, according to the authors, adequate atropinization of patient (2.4 mg. or 1/25 gr. atropine), prior to treatment will completely block the cardiac portion of the vagus nerve.

At present, we routinely use levo-hyoscyamine as the antisialagogic vagolytic agent in the premedication of patients receiving EST. As reported by Trotti and Adriani(7) the antisialagogic effect of this drug is about twice that of atropine. The vagolytic effect on the heartbeat is about the same, i.e., equivalent doses of atropine and levo-hyoscyamine produced average pulse increases of 21 beats and 27 beats respectively.

There is no question that patients receiving EST should be premedicated with a suitable vagolytic drug and receive dosages of the order mentioned above. Conventional adult dosages of atropine (1/100-1/150 gr.) are not sufficient. Inadequate atropinization as an etiological factor in cardiac arrest associated with EST is a definite possibility although, as in our case, not the only factor.

Some of the EST deaths reported in patients who were simultaneously on one of the sympatholytic ataractics might operate in a similar manner. In this situation the patient receives a marked parasympathetic stimulation via the EST when he is already in a state of parasympathetic dominance secondary to the medication. Brachta and Hes(2) reporting on an EST death of a patient on 5-15 mg. reserpine per day, suggest that the parasympathetic overactivity and the sympathetic inhibition produced by Reserpine, plus the stress of EST, was enough to overwhelm the sympathetic regulatory mechanisms so that death ensued. Our first patient with cardiac arrest was on high doses of chlorpromazine. As a result of this experience we no longer give EST to patients who are on phenothiazine medication. However, other therapists continue to combine tranquilizers and EST and have had no difficulty(1, 5).

Drake and Ebaugh(3) report a case of an undiagnosed pheochromocytoma where patient was treated with EST and expired via cardiac arrest. This, in spite of an increased availability of sympathetic neuro-

hormones. In addition, Wilkinson(8) has described how patients vary in their pre-EST autonomic symptoms as well as their autonomic responses to EST not only among separate individuals but in the same patient from time to time. Apparently the explanation of cardiac arrest during EST is not a simple autonomic imbalance, or at least alternative explanations probably exist.

We are thus left in the rather disquieting position of :

1. Being unable to predict or anticipate a cardiac arrest associated with EST, at the present time.

2. Cardiac arrest does occur in conjunction with EST. Death of the patient results unless an adequate blood pressure can be maintained until the heart resumes its normal beat.

3. There are no certain preventative measures. (a) "Adequate" atropinization might be of some help in preventing cardiac arrest but this is not proven. (b) Avoidance of concomitant treatment with sympatholytic tranquilizers also may be helpful in preventing cardiac arrest but this also is not proven.

4. Until recently, failing a smart rap on the chest wall, the usual method of treating a cardiac arrest was via thoracotomy and cardiac massage.

While thoracotomy and direct, manual cardiac massage are dramatic and heroic measures, they are extremely traumatic events for patient, his relatives, and the doctor. Temporizing or hoping something will happen also does not work. Something has to be done and fast. The usually accepted time limit is 5 minutes before irreversible brain damage occurs.

First, all physicians who utilize EST as a treatment procedure must be aware that cardiac arrest can and does occur and must recognize it when it does.

Second, they must be able to treat it, preferably in a less fearsome and traumatic way than manual cardiac massage.

Recently, Kouwenhoven, Jude, and Knickerbocker(4) reported a method of closed chest cardiac massage which they have found effective in maintaining blood pressure and hence blood supply to the vital structures of the C.N.S. until, and if, the

heart resumes its beat. Their method is as follows :

With patient in a supine position ; preferably on a rigid support, the heel of one hand with the other on top of it is placed on the sternum just cephalad to the xiphoid. Firm pressure is applied vertically downward about 60 times/minute. At the end of each pressure stroke the hands are lifted slightly to permit full expansion of the chest. The operator should be so positioned that he can use his body weight in applying the pressure. Sufficient pressure should be used to move the sternum 3 or 4 cm. towards the vertebral column.

Closed chest cardiac massage provides some ventilation of the lungs and if there is only one person present in a case of arrest, attention should be concentrated on the massage. If there are two or more persons present, one should massage the heart while the other gives mouth to nose respiration.

This method has recently been utilized successfully in the Charity Hospital surgery. We feel that it could be effectively utilized in patients with cardiac arrest following EST.

SUMMARY

A case report involving a cardiac arrest in a patient following EST is given.

Possible mechanisms and prevention of this cardiac catastrophe is discussed.

The possibility is raised that closed chest cardiac massage could be utilized effectively in cardiac arrest associated with electroshock therapy.

BIBLIOGRAPHY

1. Ayd, Frank J. : *Internat'l Rec. Medicine*, 171 : 31, Jan. 1958.
2. Brachta, S., and Hes, J. P. : *Am. J. Psychiat.*, 113 : 257, 1956/57.
3. Drake, Frank R., and Ebaugh, F. G. : *Am. J. Psychiat.*, 113 : 295, 1956/57.
4. Kouwenhoven, W. B., Jude, J. R., and Knickerbocker, G. Guy : *J.A.M.A.*, 173 : 1064, July 1960.
5. Kramer, M., and Goldman, D. : *Dis. Nerv. Syst.*, 19 : 161, April 1958.
6. Richardson, D. Jeanne, *et al.* : *N. Y. State J. of Med.*, 57 : 881, 1957.
7. Trotti, William, and Adriani, John : *Surgery*, 44 : 515, Sept. 1958.
8. Wilkinson, W. E. : *Dis. Nerv. Syst.*, 13 : 355, Dec. 1952.

IMPROVEMENT—REAL OR APPARENT ?

A Seven Year Follow-Up of Children Hospitalized and Discharged From a Residential Setting¹

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In the last few years, a number of studies have been reported which conclude that psychotherapy with children and adults is no more effective in producing change than non-intervention. Those of us engaged in psychotherapeutic treatment, rather than being disheartened by the results from these investigations, find ourselves searching underlying reasons for this lack of objective proof for what we see taking place clinically. While we do not agree with Eysenk's *intent*, we do agree with his statement from the 1952 report, that "figures fail to support the hypothesis" for effectiveness of psychotherapy and, herein, lies the source of the dilemma. Figures cannot capture the subtleties of improvement, even if we could succeed in isolating the countless dimensions of change to be measured.

Since functional illness is a social phenomenon, improvement is also socially determined. And it is this network of complex interactions that makes it next to impossible to quantify improvement in any way that will yield a true picture.

In this paper, we are focusing on some of these factors which operate in confounding the results in follow-up data, in addition to reporting on what has become of patients who have received treatment in a specific setting. We are not attempting to set any baseline or ceiling for evaluating degree of improvement, but rather view improvement as a qualitative change in a patient's ability to cope with his environment, irrespective of original diagnosis or extent of illness. In other words, we believe that, as in other branches of medicine, if, after treatment, a patient is more comfortable than before, he is improved. If, indeed,

he is only more acceptable to his family or if he lives more satisfactorily within an institution than he could have at one time in his history, then he is improved.

The subjects of this survey are the 24 children who have received treatment and have been discharged from the Children's Residential Treatment Service of Western Psychiatric Institute and Clinic in Pittsburgh. The 14 bed unit was established in 1951 for treatment, training and research purposes related to the total problem of emotional disturbance in childhood. Only children up to age 12 years, usually with intact families, were accepted for treatment. Initially, the program offered only residential care, but in 1956, day-care was added to the service. Patients from both types of service are included in this report.

Briefly, the treatment consists of: 1. Milieu therapy conducted by workers under close supervision of the training staff; 2. Individual psychotherapy for each child; and 3. Parent counseling in individual and group sessions conducted by psychiatric social workers.

Electroshock has never been administered and very little use has been made of drugs. Only 2 children of the 24 have ever received ataractic drugs, and in each case only for a short time; both were diagnosed as childhood schizophrenia.

To assess the present status of each patient of the sample, a questionnaire was designed to be sent to the parents of all the children, whether living at home or in institutions; in the latter instance, questionnaires were also sent to the institutions. The questionnaire was designed to reflect both objective and subjective reality. Informants were asked to judge easily observed, overt behaviors of the kind that would also be likely to have been recorded in hospital charts. The three main areas of inquiry were: 1. Individual adjustment; 2. Social adjustment; and 3. Health. These 3 areas were subdivided into a total of 13 specific items. For example,

¹ Read at the 116th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1960.

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under "individual adjustment," inquiry was concerned with how well the child could dress himself, communicate ideas, and in general be responsible for his own executive functions. His "social adjustment" was explored for the quality of his relationships to family, community and school. The "health" category covered general physical condition and any use of drugs. Each item calls for three different types of information in the evaluation of a given skill. The informant first judges, by multiple choice procedures, whether the patient is doing as well, less well, or better than normal children of the same age, or whether this area had never been a problem in the child's symptom picture. If the child is seen as above or below average, the parent is asked in each instance, to present in free response form the evidence on which this judgment was based in space provided for "comments" immediately below each block of multiple choice items. And finally, a 5-point rating scale is provided to indicate direction of change, if any, in this skill since discharge. A blank page is attached at the end of the questionnaire and respondents are invited to communicate any additional information that they feel might be helpful, thus furnishing a fourth type of material.

This four-pronged approach to evaluation permitted the authors to analyze returns for inconsistencies in judgment that emerge when one method of report is compared with another in the process of judging a single skill. We anticipated that personal motivation might distort a parent's perception of his child. A parent might, for example, see his child as expressing his ideas better than others, but reveal when he explains, that what he has clung to as a source of personal comfort is merely the child's ability to communicate well in some bizarre autistic fashion. From experience with our parent group, we also expected disparities in the other direction, *i.e.*, a reluctance to admit openly that the child is as competent as he should be.

Verbatim descriptions of behavior relative to questionnaire areas, were extracted from hospital charts, for each child. These behavioral samples were taken from records for 3 distinct points in time: on admission, midway in treatment, and on discharge.

These excerpts were collected from the records by a third person before the questionnaires were returned and were used by the authors as the data to be compared with the current behavioral reports provided by the parents or other informants.

Returns were received from 18 out of the 24 families of discharged patients. Questionnaires were sent by registered mail; 5 were returned because whereabouts were unknown; one was received and ignored. This 75% return was better than expected. All 5 institutions contacted reported on the 7 of our former patients in their care. Currently, ages of the children range from 7 to 20 years. Fourteen of the 24 cases were diagnosed on admission as childhood schizophrenia and 7 of these were non-verbal. Of the remaining 10, 7 were diagnosed as psychoneuroses or behavior disorders and 3 as organic brain damage with secondary behavior problems. At discharge, 17 (71%) were rated as improved, and 7 unimproved, according to hospital charts.

Surprised as we were with the high rate of return, we were even more surprised by the results revealed by the questionnaire. Based on good solid behavioral descriptions supplied by the parents, rather than on the checked or rated items, 8 of the 13 children seen as improved by the parents, are remarkably improved in the judgment of the authors. Five of these were diagnosed childhood schizophrenic, 3 being non-verbal on admission and now talking well; and 3 were diagnosed as psychoneurotic. Twelve of the 13 cases, seen as improved by the parents, live at home. Nine of the 13 had the diagnosis of childhood schizophrenia; 4 of these were non-verbal and are now talking. Restated, three-fourths of these childhood schizophrenics are seen by their parents as improved. Least improvement occurred in the organic group and most in the psychoneurotic group.

We have provided mimeographed sheets containing the finer numerical breakdowns to allow getting to the discussion of the interesting clinical impressions suggested by the qualitative features of various parents' reports. The questionnaire, as designed, proved to be very satisfactory in picking up inconsistencies in parental attitudes toward the child and in furnishing hints of the re-

lationship between these inconsistencies and the child's pathology. If this survey accomplished nothing else, it was well worth the effort, to have so completely satisfied ourselves that structured check lists or rating scales alone will not yield a meaningful picture of how well or badly a person is fitting into his society.

Among some of the over-all impressions that emerged from analyzing the qualitative aspects of the questionnaires were: that the parents of the children diagnosed as autistic tend to view them much as they are seen by clinicians and show internal consistency in reporting; parents of the brain damaged children both over-rate and show marked inconsistency in their ratings; parents of the psychoneurotic patients under-rate and are inconsistent; while the parents of the children diagnosed as childhood schizophrenics and more like adult schizophrenics in symptomatology, produced the most grossly distorted and inconsistent pictures.

We reiterate that we are only presenting these as "hints" of relationships. But that these relationships are even suggested in a sample of so few cases makes it seem worth while to throw them out for speculation as possible hypotheses to be tested on other samples.

Our first notions about the possible implications of such a breakdown have to do with the degree of responsibility that the parent may feel for precipitating or contributing to the child's illness. Since so much disagreement remains about the causal factors in infantile autism, the parents, at least in our setting, are told that the cause is unknown. Perhaps, with this cushion against feelings of involvement in the illness, they can see what is going on with their child without needing to distort or deny.

In contrast, the parents of the brain-injured children, who rate them as much better than they really know them to be, may feel that in some way they are guilty of not having given the child adequate physical protection, even when the condition was totally beyond their control. The reaction seems to be one of overcompensation and the message they are trying to convey is: "See how well my child is because I have taken such good care of him."

Degree of involvement of the parents in the illness of the neurotic child is clearly spelled out to them in any treatment program. In modern America, even in very unsophisticated layers of society, there is recognition of the significance of psychological insult. And though these parents may not consciously acknowledge their involvement, that they are aware seems to be reflected in their need to deny the competence that they actually report. They *need* to see the child as incompetent to keep the family dynamics in equilibrium.

The parents of the verbal schizophrenic children are similar in their ratings to the parents of the neurotic children in that they too tend to under-rate, and again, out of need to maintain the family balance. But they are dissimilar in that instead of just overlooking the contradictions in their evidence, they use fantastic logic to distort the meaning of the behavior that they cite. They *must* keep the child sick.

Distortions in reporting occurred most frequently among families where the history clearly identified gross involvement on the parents' part in precipitating the illness and least frequently among those with least involvement such as adoptive parents or ones who had not had early responsibility for the child as in cases of divorce and remarriage.

How satisfied the parents are with arrangements made for the child following discharge also seemed to color their answers to the questionnaire. In one case where the child had to be discharged because of age and no other facility could be found for continuing treatment, the parents, still angry at us, could only minimally comply on the evaluation task. In contrast, another family, extremely grateful to us for the excellent results obtained, wrote volumes of material. Still another family, dissatisfied with the present resources available to them, gave a glowing, and highly inaccurate, appraisal of the child in the hope that we might readmit him.

Another impression that emerges from the qualitative material uncovered in this survey, concerns environmental factors that influence outcome of illness. One girl, who was discharged as improved, is now at home in poor condition awaiting institution-

alization. An outside agency gave us a picture of total chaos within this family. Gradually, she gave up in the hopeless struggle to adjust to this pervasive confusion. The questionnaire from the family included the contradictory statements that she was much improved and that she was awaiting institutionalization.

Expectations for the child by those immediately involved with him also are a big factor in the eventual outcome of his illness. One of the formerly autistic non-verbal boys who is now verbal and doing exceptionally well is a good case in point. Although the parents had given up all hope for his recovery when they were told that he was both brain damaged and retarded, a nurse on the service insisted that this was a bright, emotionally disturbed child, and devoted herself to proving it. When he was returned to his family as dramatically improved, they were apparently able to sustain this improvement when given a new set of expectations.

And finally, to illustrate how social factors play a role in adjustment: one boy who received the American Legion Award in eighth grade for the best all-around student was proudly credited by his father with being the most "popular boy" in the class. The boy corrected him by saying, "You mean, I'm the least unpopular one." Here he clinically demonstrates the uncanny insight and unacculturated honesty of the true schizophrenic, but in this case, he is accepted by his society for his intellectual power and is given a citation. Again, we point out that improvement is determined by the environment and not by clinically established norms.

SUMMARY

This survey revealed a more hopeful outcome for this group of seriously sick children than previous reports have suggested. It is gratifying to find that so many are doing well and that others, doing less well, are so comfortably absorbed by their families. Most encouraging of all are the reports on the 4 non-verbal autistic children who now talk and are active in society outside the home. This is especially heartening when one considers how late in life it was before any intervention occurred for some of these

children. Outcome is related not only to original diagnosis but also to a complex of attitudinal and social factors. In many cases, one is left to conclude that the critical elements in improvement can never be isolated. Or, sometimes, improvement, like beauty, lies in the eye of the beholder.

DISCUSSION

FRANKLIN G. EBAUGH, M.D. (Denver, Colo.).—It is a privilege to comment upon a paper which makes such timely inquiry into a group of variables in human adjustment which have plagued therapists from the beginning. It is impossible to understand a patient without insight into the setting in which he must function, and too often it is equally impossible to gain an objective, yet empathically meaningful view of that setting. As physicians for the mentally ill, we, too, are defined by our "social climate." With increasing public awareness of mental health and illness, and strong medical focus on treatment of the "whole patient," these questions about the *milieu* of emotional illness becomes ever more pressing.

Fortunately we now realize that the psychotic, even the non-verbal, highly autistic child who does not seem to have formed initial lines of communication, is strongly and continuously influenced by his environment—in a most dynamic sense. This is one of the important implications in the data which Drs. Kane and Chambers present. Improvements occurring in children removed from "sick families," the occasional regression of improved patients upon return to their original environment where the pathological influences operate, and the factors of family attitude and satisfaction with the post-hospitalization arrangements made for the child all point to the dynamic environmental influence on psychosis. The sound-deadened isolation of the schizophrenic child is only apparent, not real.

Polemical arguments about treatment methods—psychotherapeutic, *vs.* physical, *vs.* "vitamin pills dispensed with a smile"—are, like speculations about "spontaneous recovery," only a testimony to how little real knowledge we have about the laws of interpersonal communication. By emphasizing this, and by focusing on assessing the interaction of family relationship variables, the authors have made a decided contribution. Implicit in their research report, too, is recognition of the fact that the study of human behavior remains on the first step of the ladder of scientific investigation. No amount of rigidly fragmented "experimentation" in human reactions can change or deny this. Only one

procedure can change it: observation and more observation. As the authors point out, their *ad hoc* quantifications and notes are more meaningful than the pre-categorized data collected via rating scales and multiple-choice means. My comments are not to be interpreted as a negation of sound experimental control, of course, but only as a mild reminder of the values to be found in the childlike curiosity from which most of the basic facts of our better-developed sciences are derived.

Relevant to this entire subject of methodology, observation, and psychotherapy with schizophrenic patients is a striking experiment in "family unit therapy" reported by Dr. Murray Bowen in a 1959 publication entitled, *Schizophrenia, An Integrated Approach*, and edited by Alfred Auerback. For purposes of study, fathers, mothers, siblings, and the schizophrenic patient in 4 separate families, lived together as a family unit on the ward in a research center. The family had entire responsibility for the care of the ill member, and carried on their usual outside activities as normally as possible. One family remained there for 2½ years; all periods of residence were long. Six other families participated on an outpatient basis.

The theoretical hypothesis regarded the schizophrenic symptoms in the patient as a manifestation of an active process that involved the entire family. A psychotherapeutic ap-

proach consistent with the working hypothesis required that the family members attend all psychotherapy hours together. An attempt was made to observe and relate to the family unit rather than to the individual family member. Some of the broad patterns of relationship functioning observed included a condition termed, "emotional divorce," between the parents. The family conflict seemed to remain in the father-mother-patient triad; other siblings had, perhaps at the expense of the patient, divorced themselves from participation and found their satisfactions outside the family unit. The most common family configuration was one in which the overadequate mother was attached to the helpless patient and the father remained peripheral to this intense twosome. If, during the psychotherapeutic process, the passive parent became more adequate, the formerly overadequate parent seemed to shift to the vacated position, thus maintaining the neurotic balance of the family. In those families in which parents could resolve the emotional divorce, the psychotic patient began to change toward more mature functioning.

It is in contributions such as the one just cited, and the work of Drs. Kane and Chambers, that we shall begin to understand the "ground rules" of interpersonal relationships—the ways in which they not only produce, but also perpetuate, mental health and illness.

PSYCHIATRIC FACILITIES IN CHICAGO

FRANCIS J. GERTY, M.D.¹

The last report on the Psychiatric Facilities of Chicago and surroundings was made at the annual meeting of the American Psychiatric Association in Chicago in 1957. At that time construction of the Illinois State Psychiatric Institute was in progress. The Institution is now functioning according to the plan formulated by the members of the Illinois Psychiatric Council during the preceding years.

Each of the 5 medical colleges, Illinois, Loyola, Northwestern and the University of Chicago and the Chicago Medical College supervises teaching and research in separate units of the Institute. The same is true of the Psychosomatic and Psychiatric Institute for Training and Research of the Michael Reese Hospital and of the Mental Health Services of the Department of Public Welfare of the State of Illinois. Approximately 60 patients have accommodations in each of these units. Treatment supervision for each unit is under the charge of physicians paid by the Department of Public Welfare but working under supervision of the Head of the Department of Psychiatry of each of the participating institutions. Consultants are provided from the same sources. Undergraduate medical students are taught in the wards of the Institute. There is a 3-year approved residency training program in psychiatry. The Institute is fully equipped for both psychological and physical means of research. A large auditorium is provided for holding medical meetings.

On July 1, 1961, the new State Pediatric Institute will be opened. This Institute is for treatment, teaching and research with mentally retarded children. It is intended that the Institute will accommodate between 500 and 600 children. Doctor Herbert Grossman

will serve as Director. It is intended that the Pediatric Institute, located adjoining the Illinois State Psychiatric Institute will have activities somewhat parallel to those of the State Psychiatric Institute.

In November, 1960, the electorate of Illinois approved a bond issue of \$150,000,000.00 for new construction and rehabilitation of the institutions of the Department of Public Welfare. Most of the institutions serve patients with mental illness and the major part of the expenditures will be for the improvement of the physical facilities of the mental health services. Governor Kerner was elected by a large majority of votes on a platform which had, as one of its chief planks, the improvement of services to the mentally ill. Legislation has just been introduced to provide for a separate Department of Mental Health under the direction of a psychiatrist. Included in the proposals to the legislature is a recommendation for an increase in the budget of the Department of Public Welfare of approximately \$39,000,000.00 intended chiefly for the provision of increased personnel in the mental hospitals and schools for the mentally retarded. It is intended to increase the number presently employed by over 4000 persons.

At the time of the 1957 report, construction of the new Presbyterian-St. Luke's Hospital was under way. The Hospital has been completed and its psychiatric unit of 72 beds which occupies the 12th and 13th floors of the new building, has been in operation for nearly 2 years.

The other psychiatric facilities reported upon in the American Journal of Psychiatry in 1956 and 1957 at the time of the last annual meetings of the Association in Chicago, still continue in operation and this report will serve as an appendix to them.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THE EFFECT OF MONASE IN DEPRESSIVE STATES : A MULTI-BLIND PILOT STUDY

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The purpose of the present paper is to present preliminary trial with a new amine-oxidase inhibitor in the treatment of depressive states.

The setting in which Monase² was administered is designated as "multi-blind" because it contains the following characteristics: 1. Pharmacotherapeutically blind unit; this consists of part of the research service at the Allan Memorial Institute where all pharmacotherapies are blind, *i.e.*, the members of the service team (6 psychiatrists, 1 psychologist, 1 occupational therapist and 1 research nurse) are unaware of the nature and the regime of the drug administration. The research nurse distributes the drugs and adjusts the dosage according to the patients' response in consultation with the head of the unit. On the average, 5 new drugs and 1 or 2 placebos (potent and inert) are used simultaneously in this unit. 2. Multiple observers; this consists of the use of all members of the team for the final assessment of any given substance. The individual assessments are made according to a simple rating scale which in cases of depression consisted of the following items: behavioral observations (retardation, overt depressive features, number of hours of sleep, and weight loss); experiential observations (subjective feeling of depression, guilt feeling and feelings of hopelessness). Each item is rated from 1-4 (nil to marked) and the final assessment is an accumulation of these ratings.

Under the above regime, 30 patients (depressed) received Monase with an average daily dosage of 60 mg. (maximum 120

mg., minimum 30 mg.) for an average length of 20 days (maximum 30 days, minimum 6 days). There were 20 females and 10 males; average age 46. Diagnostically, they consisted of 13 neurotic and 17 psychotic depressions (5 involuntal, 3 manic-depressive, 6 associated with schizophrenic symptoms and 3 senile).

A relatively identical group of 30 other depressed patients received placebo for an average period of 10 days. There were 18 females and 12 males; average age 48. Diagnostically they consisted of 13 neurotic and 17 psychotic depressions (6 involuntal, 1 manic depressive, 6 associated with schizophrenic symptoms and 3 senile).

Fifteen patients (8 neurotic, 7 psychotic depressions) showed significant improvement, *i.e.*, from moderate to marked (50%) in the Monase treated group in contrast with 4 out of 30 (13.3%) in the placebo treated group. The reason for the unexpectedly low responsivity of placebo group seemed to be the great intensity of depressives treated as inpatient, the relative impurity of depressions and the inclusion of mild improvements into nil category.

Side effects were, on the whole, relatively few and not very severe. These consisted of feelings of "jumpiness," increase in anxiety and irritability in 5 patients, sleepiness in 2, dizziness in 2, headaches in 2, nausea in 1, and blurred vision in 1. Biochemical studies consisting of white blood count and differential, alkaline phosphatase, transaminase, and urine analysis, once weekly, T.P.R. and blood pressure b.i.d. did not show any abnormalities with the exception of 1 case because of leukopenia (WBC 3000) in which the drug was discontinued and leukopenia disappeared. In the placebo group, 1

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² Monase is manufactured by Upjohn Company.

patient developed marked urticaria the second day.

From the above data, it was concluded that even though the effectiveness of Monase, percentagewise, was only 50%, but

due to the 13.3% placebo results in identical cases and due to the multibind nature of the research setting, the drug could be classified as an adequately potent antidepressant.

A STUDY OF COMBINED THERAPY WITH STELAZINE AND "PARNATE" (SKF 385) IN CHRONIC ANERGIC SCHIZOPHRENICS

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Because of the current interest in combinations of a "tranquilizer" and an "energizer," a trial was made of a combination of Stelazine with Parnate (SKF 385), a new antidepressant. (Parnate is an amphetamine derivative and a monoamine oxidase inhibitor.) The patients selected for the study were 20 male schizophrenics with an average age of 48 years (range 36-56) and an average hospitalization of 22 years (range 13-33). Primary manifestations of psychopathology were disinterest and inactivity. No physical methods of treatment had been employed for several years, but most of the patients had been on a phenothiazine derivative prior to this study. All patients were on the same closed ward which housed 28 patients. A remotivation program with outside recreational and occupational activities had been under way for two years, but results had remained at a plateau for several months.

All 20 patients were placed on Stelazine for five weeks, during which time the attendants made weekly hospital adjustment ratings. After the fifth week the ratings were averaged for each individual. On the basis of these scores, the patients were then divided into two groups of 10 each, using paired comparisons to distribute observed psychopathology equally in the two groups. Group A then received both Stelazine and Parnate for 5 weeks while Group B continued on Stelazine alone. Even though each patient received active medication, placebos, identical in appearance to the

Stelazine and Parnate, were used where necessary to insure that each patient received two capsules t.i.d.³ The dosage of Stelazine was individually adjusted by the ward physician (W.J.B.), according to therapeutic need and the presence of side effects. Dosage of Stelazine ranged from 2 mg. (in one susceptible patient) to 30 mg. daily, with an average of 20 mg. Parnate was given in the dosage of 30 mg. daily. No other drugs were used.

Screening for possible toxic effects included clinical examinations, blood counts, urinalyses and liver function studies, all with essentially negative results. Weight was unaffected; Parnate patients gained an average of one pound. No patients were hypertensive, and blood pressure was the same in the two groups (average 103/69 with Stelazine and 109/73 with Stelazine and Parnate). One patient, who had a blood pressure of 90/60 on Stelazine, fainted in the fifth week on Stelazine and Parnate. Blood pressure at that time was the same, 90/60. No persistent insomnia was noted.

Possible therapeutic effects were judged by weekly hospital adjustment ratings made by an attendant (unfamiliar with the experimental design) on each of the day shifts. This rating device is an abbreviated form of the Hospital Adjustment Scale.⁴

³ Appreciation is expressed to Smith Kline and French for preparing and furnishing the medications in identical capsules.

⁴ The abbreviated form, consisting of 25 items of the original 90 of the HAS has proved to be a useful and accurate assessment of hospital adjustment, and will be further described in a subsequent publication by Dr. Richard Dunham, Chief of Psychology, Dorothea Dix Hospital. Appreciation is expressed to Stanford University Press and Dr. James T. Ferguson for permission to use this scale.

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TABLE 1
Culturally "Right" Scores on the
Abbreviated Hospital Adjustment Scale
(Possible Maximum=25)
10 Subjects Each Group

	WEEKS 2 THRU 5	WEEKS 7 THRU 10
GROUP A	Stelazine 9.8	Stelazine and Parnate 9.7
GROUP B	Stelazine 10.5	Continued Stelazine 12.0

By prior arrangement, the average for weeks 2-5 and 7-10 was selected for determining results. These are shown in Table 1. The maximum pathological score is 25, and the lower the score the better the hospital adjustment. Differences between the Stelazine and Stelazine-Parnate groups are inconsequential ($p > .20$). This is compatible with the direct observation of the two physicians.

Our conclusion is that, while Parnate appears to be non-toxic and may be beneficial in other clinical states, a Stelazine-Parnate combination did not give therapeutic benefits over Stelazine alone in this group of chronic anergic schizophrenic patients.

FLUPHENAZINE IN PRIVATE PSYCHIATRIC PRACTICE

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The efficacy of certain phenothiazine derivatives in the treatment of psychotic patients(1-5) has stimulated interest in new members of this series as they have become available for clinical trial. Among those most recently introduced is fluphenazine, a trifluoromethyl hydroxyethyl piperazine propyl derivative of phenothiazine. Fluphenazine is the most potent of the phenothiazines yet developed(6-8) with a rapid and sustained tranquilizing action(6-7) and other pharmacologic properties characteristic of this group of compounds(9). Over the past two years fluphenazine has been employed in the treatment of ambulant patients with a variety of mental disorders who were referred to this office for study. During that period fluphenazine proved to be a very useful drug, especially helpful in facilitating psychotherapy, even of those patients who had resisted usually adequate psychotherapy prior to its use.

METHODS AND MATERIALS

A total of 174 non-hospitalized patients was treated with fluphenazine; 16 were children, age range 4 to 16 years; 158 were adults between 19 and 79 years of age. All had psychiatric disorders, primarily chronic in nature, but in most cases they presented

acute symptoms for which treatment was sought. Sixty-nine of the 174 patients displayed psychotic manifestations such as confusion, delusions, hallucinations, ideas of reference, withdrawal and/or morbid depression or morbid fears, while 105 presented symptoms of emotional disorders characterized mainly by anxiety, tension, or depression. All but a few of the psychotic patients had received previous psychiatric therapy which had included other tranquilizing agents: about one-third had undergone electroshock therapy, and most of the emotionally disturbed patients had also been treated previously with tranquilizing drugs as well as psychotherapy.

Fluphenazine was administered either intramuscularly or orally, usually in doses ranging from 0.5 mg. to 2.5 mg. once or twice a day. In only 5 cases did the daily dose exceed 5 mg. with 2 patients receiving 7.5 mg. and 3 being given 10 mg. of fluphenazine. Treatment was continued in the individual cases from 1 week to 24 months. The majority were treated for at least 2 months, and half were continued on the drug for at least 6 months, while approximately 20% received treatment with fluphenazine for a year or more.

Other medications such as amine oxidase inhibitors, sedatives, or antidepressants as well as antiparkinsonian drugs were pre-

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scribed as indicated. In some cases, other tranquilizing drugs were also added to the regimen, and each patient received psychotherapy throughout the period of observation.

RESULTS*

Of the 174 patients, 7 were treated for too short a period to permit evaluation of the therapeutic results. Of the 167 patients in whom the results were evaluated, 117 (70%) showed a satisfactory response with complete or almost complete disappearance of the symptoms for which they had presented themselves for treatment. Among those showing a satisfactory recovery from the present attack of illness were a number with long histories of hospitalization during which they had undergone electroshock and other types of psychiatric therapies. Essentially the same proportion of psychotic patients responded satisfactorily as did those with emotional disorders. An additional 22 of the 167 patients who were evaluated displayed some relief of symptoms and increased cooperativeness after treatment with fluphenazine but in these the response was considered to be only "fair." The remaining 35 patients showed little or no improvement.

No reactions whatever to fluphenazine developed in 131 of the 174 patients, all unwanted effects being observed in 43, with those most frequently being wakefulness (38) and parkinson-like symptoms (33). In most cases all of the reactions could be controlled by reducing the dose and/or adding methanesulfonate (Cogentin) or other antiparkinsonian drugs to the schedule, but in 14 the unwanted effects were so distressing that the drug was discontinued. Those effects which required withdrawal of treatment included "rubbery" legs (1), tension (1), leg cramps (2), oculogyric crisis (1),

blurred vision (1), sore mouth (1), restlessness (1), nervousness (2), akathisia (3), and dyskinesias of the face (1).

CONCLUSIONS

Fluphenazine (Prolixin) is a highly effective tranquilizing agent which may be administered with safety to non-hospitalized patients with a variety of psychiatric illnesses. The drug is especially helpful in facilitating psychotherapy. The almost universal relief of gastrointestinal distress in the patients treated with the drug, the absence of skin rash or photosensitivity or of observable hepatotoxicity, and the low incidence of akathisia made the drug especially useful. A very pleasant side effect reported by many patients was a sense of alertness which was beneficial in those who had been on large doses of chlorpromazine. Some were relieved from long-standing migraine headache or severe headache associated with the menses. In several others, severe allergic manifestations such as urticaria disappeared.

BIBLIOGRAPHY

1. Lehmann, H. E., and Hanrahan, G. E.: *Arch. Neurol. and Psychiat.*, **71**: 227, 1954.
2. Goldman, D.: *Am. J. Med. Sci.*, **235**: 67, 1958.
3. Freyhan, F. A.: *Am. J. Psychiat.*, **115**: 577, 1959.
4. Hoch, P. H.: *Med. Clin. N. Am.*, **42**: 781, 1958.
5. Ayd, F. J., Jr.: *J. Med. Soc. N. J.*, **57**: 4, 1960.
6. Taylor, I. J.: *Dis. Nerv. Syst.*, **21**: 169, 1960.
7. Holt, J. P., and Wright, E. R.: *Am. J. Psychiat.*, **117**: 157, 1960.
8. Darling, H. F.: *Dis. Nerv. Syst.*, **20**: 167, 1959.
9. Prolixin. New York, E. R. Squibb & Sons, Sept. 1959.

IMPROVING INSULIN THERAPY WITH NEOSTIGMINE¹

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One of the difficulties in insulin coma therapy is that the patient who has been

gavaged (to terminate the treatment) may go deeper into coma instead of regaining consciousness. For example, the technique of insulin coma therapy used in the New Jersey State Hospital at Greystone Park is

¹ The neostigmine used in this project was the Hoffman-La Roche product Prostigmine.

² 44 Maple Ave., Morristown, N. J.

as follows. The patient's insulin dosage is gradually raised to the level where he goes into hypoglycemic coma 1 to 3 hours after the insulin injection as described by many authorities, including W. A. Horwitz(1), and he is allowed to remain in coma for progressively longer periods of time ranging from 5 minutes to 1 hour or so. The coma is terminated by gavage, consisting of instilling one quart of 40% sucrose via nasal tube into the patient's stomach. Ordinarily, the patient shows signs of coming out of the coma within 15 minutes (but, if not, he is given an intravenous injection of 50% glucose, 50 or 100 cc.). The sucrose is hydrolyzed by a specific enzyme (sucrase) into glucose and fructose(2) which are then absorbed by the small intestine(3). Sucrose, because of the inherent nature of the molecule, cannot be absorbed by the gastro-intestinal tract(4). Therefore, after gavage, the blood sugar level rises and the patient wakes up.

However, in about 5-10% of the cases, intravenous injections of glucose have to be used because the patient either goes deeper into coma or takes excessively long to come out of the coma. In these cases it was postulated that the patient has a low concentration or volume of sucrase, a prolonged emptying time of the stomach, or an impaired peristaltic activity of the gastro-intestinal tract leading to poor absorption of glucose and fructose. For such cases therefore, it was reasoned that, since neostigmine increases peristalsis(5) and shortens gastric emptying time, this might be a valuable drug in decreasing the number of intravenous injections that have to be given during ICT.

Three female patients and 1 male patient out of a group of 38 females and 23 males were found to require intravenous injections 100% of the time even though they had been gavaged during 3 to 8 previous insulin treatments. (Insulin coma treatments at Greystone Park are ordinarily given 3 days a week to the males and 3 days a week to the females alternately.) Therefore, 1 mg. of neostigmine was injected intramuscularly just before gavage to each of these patients. Two patients came out of the insulin coma

within 1 hour for the first time without intravenous injection of glucose, and the other two patients seemed to be in more shallow depths of coma than previously but had to be brought completely out of coma again by intravenous glucose. On successive treatment days, 1 mg. of neostigmine was given to those of this group who had come out of coma within 30 minutes of gavage, and the dosage was raised to 1½ mg. for the others. In addition, the neostigmine injection was given no later than 10:00 a.m. even if the gavage was performed later (the insulin injections are given at about 7:00 a.m. at Greystone Park). With this routine for the next 4 weeks, all 4 patients mentioned above have been routinely coming out of coma without intravenous injection, and the number of intravenous injections required for each ward therefore has been sharply reduced with a significant saving in time, effort, and expense.

SUMMARY

In insulin coma therapy, in those patients who regularly require intravenous injections of glucose to bring them out of coma, the intramuscular injection of 1 or 1½ mg. of neostigmine from 10 to 45 minutes before gavage with 1 quart of 40% sucrose resulted in a 100% elimination of intravenous injections required. This therefore is felt to be an important contribution to insulin coma therapy. In addition it may help materially in the re-establishment of insulin coma therapy at those mental hospitals where it was previously discontinued because of the greater number of personnel required to administer intravenous injections.

BIBLIOGRAPHY

1. Horwitz, W. A. : American Handbook of Psychiatry. New York : Basic Books, Inc., 1959.
2. Best, C. H., and Taylor, N. B. : The Living Body. New York : Henry Holt & Co., Inc., 1944.
3. *Ibid.*, 298.
4. *Ibid.*, 298.
5. Goodman, Louis, and Gilman, Alfred : The Pharmacological Basis of Therapeutics. New York : The Macmillan Co., 1941.

THE EFFECT OF MEPROBAMATE (MILTOWN®), RO 1-9569/12 (NITOMAN®), AND SCH-6673 (TINDAL®) ON THE ODOR OF SCHIZOPHRENIC SWEAT¹

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These exploratory studies were conducted in order to determine whether various tranquilizers remove the characteristic odor noticeable in the sweat of certain patients with the schizophrenic syndrome(1). In 1956, Pennington suggested that the acrid "skunk-like" odor of 4 catatonic patients disappeared after treatment with meprobamate and that this might be due to relief of anxiety with a decrease in the amount of sweat produced(2). In 1960, Gouldman and Rutherford reported that a phenothiazine derivative, Sch-6673, appeared to abolish the body odor of schizophrenic patients and postulated that if this odor is a product of a characteristic metabolic disturbance in schizophrenia, then, Sch-6673 may modify the disturbance(3).

METHOD

Selection of patients. Five male schizophrenic patients with the characteristic odor in easily discernible amounts were chosen by 3 observers with two years' experience in discriminating this odor from other odors ordinarily present in sweat. These 5 patients have been observed many times in the course of other studies and have this characteristic odor 100% of the time, whether ex-

amined by a cotton ball underarm sniff test, sniffing of the residue on a watch glass after ether extraction, or by rat-conditioning methods.

The patients live on the same ward and have the same diet and level of activity. No deodorants are used. In each case the previous medication was discontinued for one week.

Meprobamate⁴ study. Patients 1 and 5 received Miltown® 400 mgs. q.i.d. for 3 days, 800 mgs. q.i.d. for 3 days and finally, 1600 mgs. q.i.d. for 14 days.

Ro 1-9569/12 study. Patients 3 and 4 received Nitoman® 50 mgs. b.i.d. for 3 days, 50 mgs. t.i.d. for 9 days, and finally, 100 mgs. t.i.d. for 7 days.

Sch-6673 study. Patients 1 and 3 received Tindal® 20 mgs. t.i.d. for 9 days followed by 40 mgs. t.i.d. for 14 days. Patients 2 and 4 received a Tindal® placebo during the same period. Two of the observers did not know which of the 4 patients were receiving placebo.

Test method. A cotton ball on the end of forceps was rubbed in each armpit and immediately sniffed by the 3 observers. Results were recorded on a 1 to 4 plus scale. Sniff tests were done when the patients were selected, one week after no medication,

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³ We wish to thank Mrs. Patricia DeVign, R.N., St. Louis State Hospital, for her assistance.

⁴ Meprobamate (Miltown) was supplied by Wallace Laboratories, New Brunswick, N. J. The Sch-6673 (Tindal) and placebo were supplied by Schering Corporation, Bloomfield, N. J. Ro 1-9569/12 (Nitoman) was supplied by Hoffmann La Roche, Inc. Nutley 10, N. J.

TABLE 1
White Males With Schizophrenic Reactions

CASE	ONSET AGE	PRESENT AGE	ILLNESS (YRS.)	LENGTH OF STAY (YRS.)	ODOR	EARLY DIAGNOSIS FROM CHART	CURRENT DIAGNOSIS
1	20	39	19	16	++++	Catatonic Type	Catatonic Type
2	27	49	22	18	++++	Catatonic Type	Chr. Undiff. Type
3	18	55	37	24	++++	Simple Type	Chr. Undiff. Type
4	20	48	28	13	++++	Catatonic Type	Chr. Undiff. Type
5	37	67	30	30	++++	Hebephrenic Type	Catatonic Type
AVE.	24.4	51.6	27.2	20.2	++++		

before beginning the drug, at 3-4 day intervals, and at the end of each study.

RESULTS

No essential change in the quality or quantity of the characteristic odor was detected during the various trials. When a bath had been given the night before, the odor was still prominent on the following day. The clinical condition of the patients was unimproved during each trial period. No toxic reactions occurred.

DISCUSSION

The clinical impression that Miltown® eliminated the characteristic odor of schizophrenic sweat was not borne out after a more systematic study. The findings concerning Tindal®, likewise, could not be substantiated when a more direct method of testing was used. Whether deodorants were used intermittently by the patients was not reported. Possibly an odor that was not the "characteristic odor" was being monitored. For definitive answers a direct

chemical test for the substance responsible for this odor is essential.

Additional clinical observations on some of the above patients who also received other tranquilizers are available. The characteristic odor was not eliminated by therapeutic dosages of reserpine (Anquil®), chlorpromazine (Thorazine®), trifluoperazine (Stelazine®), prochlorperazine (Compazine®), and meprobamate (Equanil®).

CONCLUSIONS

The administration of several classes of tranquilizers under standard conditions failed to eliminate the characteristic odor found in certain schizophrenic patients.

BIBLIOGRAPHY

1. Smith, K., and Sines, J. O.: A.M.A. Arch. Gen. Psychiat., 2: 184, 1960.
2. Pennington, V. M.: Science News Letter, 69: 7, 1956.
3. Gouldman, C., and Rutherford, A.: Am. J. Psychiat., 117: 354, 1960.

A FAILURE TO FIND DISTINCTIVE PERSONALITY FEATURES IN A GROUP OF OBESE MEN¹

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The notion that certain bodily illnesses occur in persons with specific kinds of personality has been a recurring theme in psychosomatic medicine. This notion was first systematically treated by Flanders Dunbar in her description of certain "personality profiles" purportedly specific for certain bodily illnesses. Since then a large number of reports have supported this specificity hypothesis, and have added to the types of personality characteristics and types of bodily illnesses which are held to be linked in some manner. Unfortunately, few of the purported body-mind relationships have

been tested and studies carried out with methodological rigor have sometimes not confirmed hypotheses based upon clinical impressions.

In view of the uncertain status of the problem of psychosomatic specificity, 18 obese men were examined for distinctive personality characteristics and were compared with a carefully matched control group. This appears to be the first such study of obese men. A similar study of obese women failed to find distinctive personality features.

METHOD AND MATERIALS

Eighteen markedly obese men, aged 19 to 60, were matched man-for-man for age, educational level, race, and referral source with 18 men of normal weight. Eleven of the subjects were consecutive obese male admissions to the General Medical Clinic of

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a University Hospital, while 4 were consecutive male admissions to the Psychiatric Clinic of this hospital during the same period of time; 3 were medical students. Median percent overweight was 53 with a range from 22 to 78.

All subjects were tested individually with a wide range of standard psychological tests: 1. Four sub-tests of the Wechsler-Bellevue Adult Intelligence Scale—two Verbal tests (Information and Vocabulary) and two Performance tests (Block Design and Digit Symbol); 2. The California Psychological Inventory; 3. The Leary Interpersonal Check List; 4. The Taylor Test for Manifest Anxiety; 5. The Thematic Apperception Test; and 6. The Draw-a-Man Test.

The literature on personality characteristics of obese persons was reviewed and the most widely accepted and distinctive features encountered were stated in a series of 6 hypotheses. An attempt was made to differentiate the obese and control subjects with respect to these hypotheses. Differences between the groups were tested by the appropriate non-parametric statistic for related samples, usually the Wilcoxon Test.

RESULTS

Hypothesis 1. *Obese men are more anxious and neurotically disturbed than non-obese men.* There was no difference between the groups on the Taylor Test for Manifest Anxiety or on the Well-Being Scale of the California Personality Inventory.

Hypothesis 2. *Obese men describe themselves as more dominant, status-conscious and self-accepting at a conscious level, but reveal themselves as weaker and more dependent at less conscious levels.* There was no difference between groups on the Dominance, Status, and Self-acceptance Scales of the California Psychological Inventory, the Dominance score on the Leary Interpersonal Check List, the weakness and dependence measures derived from the Thematic Apperception Test, or the Draw-a-Man Test.

Hypothesis 3. *Obese men obtain higher scores on the verbal than on the performance sub-tests of the intelligence test.* The obese group did score significantly higher on the Verbal than on the Performance sub-

tests of the Wechsler Adult Intelligence Scale (mean Verbal I.Q. 115.7 vs. mean Performance I.Q. 105.4). Curiously, however, the control group revealed a similar disparity (mean I.Q. 117.3 vs. mean Performance I.Q. 103.5). The reason for the discrepancy between Verbal and Performance I.Q.s was not determined.

Hypothesis 4. *Obese men are more intellectually conforming than non-obese men.* There was no difference between groups on the Achievement for Conformity Scale of the California Psychological Inventory.

Hypothesis 5. *Obese men describe their mothers as stronger than their fathers.* There were no differences between obese and non-obese men in their descriptions of their parents on the Leary Interpersonal Check List.

Hypothesis 6. *Obese men are more feminine in their interests than non-obese men.* There was no difference between groups on the Femininity Scale of the California Personality Inventory.

The results were thus negative for the hypotheses tested. Furthermore, the psychological tests did not reveal differences of any kind between obese and non-obese groups.

DISCUSSION

The hypotheses utilized in the present study were constructed from reports on diverse obese populations which included women and children and which were studied by a variety of clinical and psychological means. Our findings do not, therefore, contradict the validity of the hypotheses when applied to other groups of obese persons studied by other means. They do suggest that such hypotheses do not apply to obese men. It is possible that a larger and more homogeneous obese male population might show psychological characteristics which would differentiate it from a non-obese group. The failure to find even suggestive points of difference, however, in conjunction with Friedman's similar negative results with obese women,⁴ indicates caution in accepting purported personality profiles in obesity.

⁴ Friedman, J.: J. Consult. Psychol., 23: 524, 1959.

SUMMARY

Eighteen markedly obese men were carefully matched with 18 men of normal weight

and given a battery of psychological tests. No distinctive personality features were found.

DYSTONIC REACTIONS PRODUCED BY TRANQUILIZERS

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Dystonia—one of the more interesting of the side effects of the phenothiazines—has been mentioned in the literature as easily confused with a variety of neurological disorders, but perhaps a more common error is to explain the dystonia as either a catatonic or conversion phenomenon. Since the patient receiving the tranquilizers is already disturbed and the clinical picture of the dystonia is so bizarre, the physician is sometimes able to fit the symptoms with the patient's psychopathology and to interpret them dynamically.

Because of the confusing picture presented by these patients, it is considered worthwhile to present in some detail descriptions obtained from several patients with dystonia.

Case 1.—A 20-year-old married woman with chronic anxiety became more acutely anxious 1 month post-partum and received prochlorperazine 10 mg. from her family physician. Twenty hours later both the patient and her family became greatly alarmed over her strange activity. Suddenly she began to stare at the wall, her mouth opened and her tongue protruded. With effort she was able to close her mouth. These symptoms subsided in a few minutes but recurred in several hours accompanied by marked terror. The family physician, suspecting a psychosis, requested a psychiatric consultation.

At the time of psychiatric examination the patient was extremely panicky with a pulse rate of 160, lowering to 120 with reassurance. Neurological examination was negative. Although there was evidence of chronic anxiety there was no gross evidence of psychosis. However catatonia was suspected. Because of the patient's fearfulness, hospitalization was contemplated but no bed was available at the time. The drug was discontinued. At home her

motor symptoms and anxiety gradually subsided without recurrence.

Case 2.—A 20-year-old nurse received trifluorpromazine 10 mg. I.M. for nausea and vomiting of pregnancy. The following is her own description of the effects.

"Shortly after the injection I became very restless. The muscles twitched all over my body. In half an hour my head went back and stayed there unless I pulled it forward. My tongue felt swollen, my jaw twisted to one side, my teeth were clenched. My speech was slurred.

"The doctor (who felt the symptoms were functional) gave me an injection of barbiturates and although I was very irritated by his attitude I fell asleep and the symptoms went away.

"The next day I was very drowsy and had 2 half hour episodes during which my jaw seemed to go funny and tight. I walked and it went away. I had no trouble after."

Case 3.—A 21-year-old schizophrenic girl on chlorpromazine 25 mg. q.i.d. reported 2 episodes occurring in a 3-week interval:

"I just have to keep looking up. It lasts about an hour. My eyes go up. I can pull them down but they don't stay down. I can move my eyes from side to side but it's hard—it's hard to keep holding them down."

These episodes occurred although the patient was on Cogentin, subsided and recurred spontaneously. There were no other symptoms and she was able to carry on except that she was afraid to cross streets during an attack.

Several other similar cases were seen and it is of interest that in all these patients the original impressions of the physicians were that the symptoms were functional or emotional in origin.

In summarizing observations on these and other patients, some general characteristics are apparent. The dystonic symptoms are usually sudden in onset, occur episodically,

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are often of brief duration, and occasionally are under partial voluntary control. The latter results in the patient's description sounding peculiar. Pallor or flushing may accompany the other manifestations. Fear is usually marked and often accompanied by feelings of "going crazy" or peculiar explanations for the symptoms. Usually there are no signs of associated Parkinsonism.

Specific clinical manifestations of dystonia include tonic contractions and myoclonic twitches of any unilateral or bilateral muscle groups. Hyperextension of the neck and trunk with the spine curved backward from the hip, often associated with twisting of the head backwards or to one side and

jerking of the head occurs. Spasm of the jaw muscles is common with the mouth either tightly closed or held fixedly open with protrusion of the tongue. Speech is difficult at times. Perioral tremors, mandibular tics, and difficulty in swallowing are often associated. Oculogyric spasms have been observed. There is a striking similarity at times to symptoms observed in post-encephalitic states.

Prompt recognition of the symptomatology of dystonia as an entity in itself is essential both to avoid diagnostic confusion with other psychiatric conditions and to facilitate treatment.

COMBINED TRANLYCYPROMINE-TRIFLUOPERAZINE THERAPY IN THE TREATMENT OF PATIENTS WITH AGITATED DEPRESSIONS

STANLEY LESSE, M.D., MED. SC. D.¹

This report is based on a 14-month study of 100 patients with severe agitated depressions who were treated with tranlycypromine (Parnate, SKF)² in combination with trifluoperazine (Stelazine, SKF)² on an ambulatory basis. Tranlycypromine is a very potent non-hydrazone monamine oxidase inhibitor structurally related to the amphetamines and has an enzyme blocking period which is quite short compared with other monamine oxidase inhibitors. The drug has very few side effects.

The study was limited to patients who manifested marked anxiety, agitation, restlessness, severe depression and feelings of hopelessness. The vast majority were completely incapacitated vocationally and socially.

This type of patient was selected because in my experience the antidepressant drugs currently available, when evaluated statistically, are of significant benefit only in patients whose depressions are associated with

a marked decrease in psychomotor activity (1). In a previous study I found that the tranlycypromine alone was of no significant help in the treatment of agitated depressed patients (2). Trifluoperazine alone was of inconsistent benefit in a parallel study of 50 agitated depressed patients.

METHOD

Sixty-nine patients were women, ranging in age from 25 to 78 years (all but 8 were over 40), 31 were men aged 35 to 72. The duration of treatment varied from 2 weeks to 14 months.

The usual initial daily dosage was 10 mg. of tranlycypromine and 3 mg. of trifluoperazine (administered in combination) t.i.d. (in particularly severe cases q.i.d.). If the agitation was not too profound, I found that the trifluoperazine could be reduced to 2 mg. 3 or 4 times per day. Therefore, the key to the amount of trifluoperazine used was the degree of agitation manifested prior to the onset of therapy.

Those patients who responded well *began* to show definite beneficial results within 24-72 hours. If signs of improvement were not forthcoming by then, it was uncommon for this combination of drugs to be helpful.

¹ From the Neurological Institute of the Presbyterian Hospital of New York and the Department of Neurology, Columbia University.

² The drugs used in this study were supplied by Smith Kline and French Laboratories, Philadelphia, Pa.

Fifteen of the 100 patients were considered as achieving an Improvement Rating of 1 (Excellent) while 48 showed an Improvement Rating of 2 (Good). Thus 63 of the 100 patients had complete or almost complete remissions of their depressions and were able to function vocationally and socially on a high level within 2 to 4 weeks after starting. Fourteen patients had an Improvement Rating of 3 (Fair) while the remaining 23 showed no improvement.

Seventeen of the 37 patients showing Improvement Ratings 3 and 4 (Fair and Poor) were schizophrenics. In general, patients ill for less than 6 months had the best results. There were 11 patients ill for more than 3 years, who had previously received active psychotherapy and organic therapies without definite help, whose response to the tranlycypromine-trifluoperazine combination was very gratifying (Excellent or Good).

In previous studies with antidepressant drugs, I found that an improvement in psychomotor activity preceded any improvement in the depressed affect (1, 2, 3). Fifty-one (81%) of the 63 patients who obtained satisfactory results in this study showed this pattern of improvement.

During the 14-month study, 16 of the 63 patients who initially had Improvement Ratings 1 or 2 had severe exacerbations of their depressions. In 6 of these the exacerbation occurred while they were on the drug combination, in the 10 others the drug had been discontinued. Six of these 10 had excellent or good results when the tranlycypromine-trifluoperazine combination was again administered.

Adverse side effects were minimal. Five patients had slight stiffness of their limbs if the trifluoperazine dosage was in the range of 12 mg. per day. This was relieved by the addition of methane-sulphanate (Cogentin, Merck). Two patients had orthostatic hypotensive reactions of sufficient degree to warrant stopping the drugs.

CONCLUSIONS

The tranlycypromine-trifluoperazine combination is of definite benefit in the treatment of patients with severe agitated depressions. In the author's experience this combination represents the only psychopharmacologic antidepressant that is of proven worth in this particular very prevalent clinical group. While others have reported that this combination has been of benefit in the treatment of chronic, regressed and withdrawn patients (4) and in chronic refractory schizophrenics (5), I have not found this to be true. To the contrary, this combination is of benefit primarily in patients with a marked increase in psychomotor activity.

BIBLIOGRAPHY

1. Lesse, S.: *J. of Neuropsychiat.*, 1: 246, May-June 1960.
2. Lesse, S.: *Int. Rec. Med.*, 173: 632, Oct. 1960.
3. Lesse, S.: *N. Y. State J. Med.* (in press).
4. Singh, H., and Free, R. M.: *Am. J. Psychiat.*, 117: 364, Oct. 1960.
5. Kruse, W.: *Am. J. Psychiat.*, 117: 548, Dec. 1960.

CASE REPORTS

CHLORDIAZEPOXIDE HYDROCHLORIDE (LIBRIUM®) AND JAUNDICE: REPORT OF A CASE

JOSEPH CACIOPPO, M.D., AND SIDNEY MERLIS, M.D.¹

Severe untoward reactions have been infrequently reported with chlordiazepoxide hydrochloride (Librium®). This report is of interest because it is, to our knowledge, the first case in which jaundice occurred coincidentally with chlordiazepoxide therapy.

Case Report.—This 39-year-old white male patient had been hospitalized at Central Islip State Hospital for 6 months. He was diagnosed as schizophrenia, paranoid type, with convulsive disorder, grand mal and petit mal types. Since admission, partial seizure control was achieved on a regime of diphenylhydantoin sodium 90 mg. q.i.d., and phenobarbital 60 mg. q.i.d. On April 28, 1960, in addition to the above, he was given chlordiazepoxide in dosage of 25 mg. b.i.d. Five days later, on May 3, 1960, the patient was noted to have icteric sclerae and skin jaundice. There were no subjective complaints. The patient stated that he felt well and was quite unaware of this development. Laboratory workup on May 4 revealed significant hepatic abnormalities. He was admitted to the acute medical service

on May 6 in an ambulant and cooperative condition. Further questioning revealed that since beginning chlordiazepoxide therapy he had noted darkened urine and light stools. Physical examination was normal except for icteric sclerae and skin and a slight tenderness in the right hypochondrium. Fluoroscopy of the gastrointestinal tract was negative. X-ray studies for biliary tract calculi failed to reveal any abnormal calcification. The icterus persisted stubbornly and the overall clinical picture suggested an obstructive jaundice which seemed to run a prolonged course in spite of supportive therapy of fluids, withdrawal of drug and high vitamin intake. The course of the jaundice appeared to be unheralded by any infectious process, fever, general malaise or specific subjective complaints. The intensity of the jaundice as measured by the icteric index reached a peak 19 days after it was first noted. Abnormal laboratory findings persisted and gradually began returning to normal 3 weeks after the onset of his illness. Laboratory data are presented in Table 1. The patient continued jaundiced until June 18, a total of 58 days. He continued to receive diphenylhydantoin sodium and phenobarbital throughout his entire period of hospitalization except for a brief interruption of 4 days. Urine and stools

¹ Research Division and the Clinical Facilities, Central Islip State Hospital, Central Islip, N. Y.

TABLE 1
LABORATORY WORK

	MAY 4	MAY 9	MAY 11	MAY 13	MAY 16	MAY 20	MAY 23	MAY 26	MAY 31	JUNE 2	JUNE 3	JUNE 20	JUNE 22	JUNE 24	AUG. 10
Icterus Index	30.1	52.4	56.6	39.6	49.6	62		60.8	24.9		15.4	11.2	8.0		10.3
Total Protein (Gms.)		70				6.9					6.6				7.9
Albumin (Gms.)		4.1				3.85					3.9				4.5
Globulin (Gms.)		2.9				3.05					2.7				3.4
A/G Ratio		1.4:1				1.26:1					1.4:1				1.3:1
Ceph. Floc.															
24 hrs.		2+	3+					3+		2+					Neg. Neg.
48 hrs.		2+	3+					3+		2+					Neg. Neg.
Alkaline															
Phosphatase					14						12		4		5
Bodansky Units															
Blood Count															
RBC (Millions)		4.49	4.28	4.49	4.82	4.49		4.85					4.49		
WBC (Thous.)		9.1	10.4	6.25	9.5	8.8		12.8					6.25		

returned to normal color June 2. On June 27 the patient was transferred to a continued treatment building where he has remained well.

DISCUSSION

The frequency of side effects and toxic reactions to tranquillizer therapy has been well recorded. The significance of this report can only be established by subsequent experiences of others. In the case described here, it cannot be completely ascertained that the jaundice was directly related to chlordiazepoxide therapy. The temporal coincidence of the beginning of medication and the onset of jaundice is highly sugges-

tive of a causal relationship. There was no evidence of viral hepatitis or liver disease of infectious origin present in the hospital at the time this patient became ill. While the possibility of viral hepatitis must be considered, the likelihood of its presence is uncertain. One cannot rule out the possibility that this patient had an exquisite sensitivity to the combination of diphenylhydantoin, phenobarbital and chlordiazepoxide. It is of interest to note that the onset of jaundice, unaccompanied by subjective symptoms, is in keeping with the usual history obtained in patients suffering from drug-induced icterus.

A CASE OF INHIBITION OF EJACULATION AS A SIDE EFFECT OF MELLARIL

HARBHAJAN SINGH, M.D.¹

INTRODUCTION

It is almost 2 years since Mellaril² has been introduced. The Sandoz Pharmaceutical Company at that time claimed that they had finally found a phenothiazine drug with the same potency as chlorpromazine but with no side effects whatsoever. This drug was accepted, open-heartedly, by practicing psychiatrists and physicians, who previously were quite cautious in their use of phenothiazine due to jaundice, parkinsonism and other side effects. It was soon discovered that, although this new drug was as potent as chlorpromazine, and had fewer side effects, it nevertheless was not virtually free of side effects. The most common symptoms noted were dryness of mouth, a sensation of stuffed up nose and some minor skin reactions. Later some workers reported Retinitis Pigmentosa in certain cases receiving high dosages. Recently we have come across a case demonstrating a rather unusual symptom.

Case Report: A 35-year-old, white, male patient was brought to the Emergency Department of the Ottawa Civic Hospital, Ottawa, Ontario, on September 6th, 1960, in a state of

acute anxiety and stomach distress which had evidently begun several weeks earlier and had been growing progressively more severe. Patient was sitting in a foetal position, unable to move or walk, complaining of pain all over the body and epigastric distress. He claimed he was unable to walk or move because of tension spasms in his arms, legs and neck.

According to the case history, the patient had been nervous and tense all his life, had been drinking excessively for the last 7 years and had been suffering from stomach ulcers for the last 5 years. During the past year, he had also been suffering from dizzy spells and excessive sweating.

The patient was given an intramuscular injection of 7½ gr. of sodium amylal and within half an hour was relaxed and started talking and walking. The patient was then put on Mellaril 100 mgm. t.i.d. and Gelusil (antacid) and was informed that he would be followed up and treated in the outpatient department only if he would guarantee to cease his excessive drinking.

When seen again the following week, the patient was much improved, but was manifesting an unusual symptom. He complained of a complete inhibition of ejaculation during coitus. He had the usual orgasm but there was no discharge associated with it. The patient was reassured, advised to continue with the Mellaril 100 mgm. t.i.d., and asked to return in 2 weeks. When the patient returned, he still

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² Thioridazine, Sandoz.

complained of this ejaculatory inhibition. At this time, to ascertain whether this was a side effect of Mellaril, the medication was changed to Stelabid No. 2,³ and when the patient returned for his next appointment 2 weeks later, he stated that he had normal ejaculation during

orgasm. Mellaril was again tried for a few days and gave rise to the previous symptom of inhibition of ejaculation.

CONCLUSION

A case is reported showing an unusual side effect due to Mellaril.

³ Combination of Darbid and Stelazine, S. K. F.

COMMENTS

EUGENIC STERILIZATION LEGAL IN 28 STATES

The *AMA News* (Jan. 9, 1961) lists the 28 states of the American Union in which laws provide for eugenic sterilization of various classes of persons. According to a staff attorney of the American Medical Association the classes affected include the feeble-minded, the insane, sexual deviates, and habitual criminals.

The states are: Alabama, Arizona, California, Connecticut, Delaware, Georgia, Idaho, Indiana, Iowa, Kansas, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Utah, Vermont, Virginia, West Virginia, Wisconsin.

The *AMA News* states: "In these states, the physician authorized to perform the operation incurs no personal liability if the operation is performed in accordance with a valid law and without negligence. This holds true even over the objection of the person upon whom he operates."

Ten of the 28 states authorizing eugenic sterilization, namely Arizona, Indiana, Mississippi, New Hampshire, North Carolina, Oklahoma, South Carolina, Utah, Virginia, West Virginia, also provide for therapeutic sterilization; but this does not include sterilization for convenience.

Specifically, in 3 of the 28 states it is held to be a statutory crime to sterilize for other than eugenic or therapeutic purposes. These states are Connecticut, Kansas and Utah.

An A.M.A. staff attorney has pointed out (*AMA News*, Jan. 23, 1961) that: "There are no reported criminal cases involving a physician who performed a sterilization operation solely to suit the convenience of his patient." It may be assumed that no physician would perform a sterilization operation, other than for eugenic sterilization in states where this is authorized without the written agreement of both patient and spouse.

PSYCHE

This is the double conflict, the social opposition and the moral agony, that spirit suffers by being incarnate; and yet if it were not incarnate it could not be individual, with a situation in space and time, a language and special perspective over nature and history: indeed, if not incarnate, spirit could not *exist* at all or be the inner light and perpetual witness of *life* in its dramatic vicissitudes.

—SANTAYANA

CORRESPONDENCE

THE COMMON FRONTIERS OF PSYCHIATRY AND LAW

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: The authors of the above named article, published in the December 1960 issue, discuss a wide range of topics lending themselves to challenging research. They range from correlation between physical illness and delinquency and factors affecting conformity in legislative policies to processes of struggle in the world community and professional education.

The sophisticated and all-embracing imagination of the authors has, however, one fears, stopped them from seeing the forest for the trees, from facing the stark fact that every year several million appear before the courts in this country, that three million persons are in jail, 1,600,000 for very serious felonies, and that crime constitutes an ever increasingly serious social problem.

Psychiatry should make the social contribution it is capable of, and not be restricted to helping private practice neurotics cope with their minor problems of living, nor concentrate too much on theoretical speculation. While many volumes, psychiatric and sociological, are being published on delinquency, there are only a few psychi-

atrists willing and able to treat serious law-breakers, adult or juvenile. Criminal psychiatry should be taught as a specialty. The failure to treat also handicaps research. How can we study the mentality, background, impact of legal situations, the working of the courts, unless we have sufficiently close contact with them? And how are we to get it unless we treat offenders and cooperate with the courts?

Enlightened courts are only too eager to rehabilitate offenders, but are handicapped by the dearth of constructive facilities. APTO has, since 1950, cooperated most satisfactorily with 17 courts in Greater New York. We are now in the process of setting up an APTO chapter in Washington, D. C., that can provide clinical service, at the request of courts and correctional agencies. Our Massachusetts Chapter, headed by Dr. Donald Russell, comprises 14 court clinics.

There is little doubt that if psychiatrists offered effective service, they would be warmly welcomed by most courts, probation services and correctional agencies all over the country.

Melitta Schmideberg, M.D.,
New York City.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: We congratulate Dr. Schmideberg on her energetic and effective efforts to provide disturbed offenders with treatment. We agree that psychiatric approaches to criminal behavior ought to be taught and that offenders ought to be treated. (The psychiatric author has been doing both for 15 years.)

However, we fail to see any incompatibility between providing criminals with ther-

apy and undertaking investigations designed to study the biologic, psychic, and social factors predisposing to social and behavioral pathology.

Indeed, it would seem self-evident that it is more rational to aim at preventing socially destructive behavior than to concentrate exclusively on treating disturbed individuals after the harmful acts have occurred.

Lawrence Zelic Freedman, M.D., and
Harold D. Lasswell, Ph.D.,
Stanford, Calif.

PSYCHOANALYTIC METHODOLOGY

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I wonder whether a fundamental error—the incorrect acceptance of the initial response as essentially valid—may exist in psychoanalytic methodology, and whether this error may sometimes tend to undermine human cooperative attitudes and activity in therapeutic practice, in family living and in social theory.

Free association—giving voice to the initial response—is the basis of psychoanalytic and much of psychotherapeutic practice. "Say what comes to mind" is the admonition to the patient. The initial response which then spontaneously occurs is a fundamental part of the "material" upon which the treatment is based. In practice, this initial response tends to be taken as the truest and most accurate expression of the patient's most profound feelings, of his "Unconscious."

But physiology tells us that the initial response of any organism to a stimulus will be based on an exaggeration of its painful qualities, inasmuch as throughout the animal kingdom painful stimuli have priority over pleasurable ones at the moment of stimulation. This physiological consideration would indicate that the initial response would tend to be a distorted one, in which painful elements play a disproportionately large part. In humans, this distortion inevitably present in the initial response is usually corrected by subsequent reflection; for this reason, we are taught to think before

we speak. Unfortunately, however, psychoanalysis does not always seem completely to recognize the existence of the physiologically-determined distortion in the initial response, but instead seems at times to accept this response as valid, accurate and undistorted.

The initial response in psychoanalysis or psychotherapy will, of course, often be about other people or toward them. To the patient, the painful quality of these people will be exaggerated by the distortion inevitable in the initial response. Since interpersonal pain leads to interpersonal hostility, however, acceptance of the exaggerated initial painful quality of the other person as a valid appraisal will tend to cause an overestimation of interpersonal hostility. The tendency toward exaggeration of social conflict and of man's inhumanity to man which might result thereby would seem at least partly responsible for 2 unfortunate consequences: a disruptive effect within the families of some psychoanalyzed people and the pessimism so pervasive today about the possibility of human beings ever getting along harmoniously.

It is then perhaps an artifact of psychoanalytic method, rather than anything scientifically proven, which sometimes leads its supporters to see man's inhumanity and hostility to man as inevitable, both within the family and in society as a whole.

Nathaniel S. Lehrman, M.D.,
Great Neck, N. Y.

RECURRENT PSYCHOTIC DEPRESSION ASSOCIATED WITH HYPERCALCEMIA AND PARATHYROID ADENOMA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In volume 117, page 234 of the *American Journal of Psychiatry* Dr. Martin M. Mandel describes under the heading "Recurrent Psychotic Depression Associated with Hypercalcemia and Parathyroid Adenoma" a case in which at the third recurrence of the depression a calcium determination revealed an elevated calcium level

in the blood serum and a following operation and removal of the parathyroid adenoma brought the patient back to health. In his opinion the symptoms of an adenoma of the parathyroid gland are undistinguishable from those of a depression.

However, psychotic depressions without parathyroid adenoma can be accompanied by an altered blood calcium level. The picture this patient presented would have been

named "agitated depression" according to the old nomenclature. In a paper named "Untersuchungen über den Stoffwechsel bei manischen und depressiven Zustandsbildern. II. Mitteilung: Veränderungen des Kalzium- und Kaliumspiegels des Gesamtblutes," in *Jahrbücher für Psychiatrie und Neurologie*, 1928, Vol. 45, page 32, the writer of this letter has shown that agitated depressions have an elevated calcium level

in the blood. In a monograph titled "Undersøgelser Over Nogle Af Blodets Elektrolyter (Ca, K, Na, H) Og Det Vegetative Nervesystem Særlig Hos Patienter Med Manio-Depressiv Psykose" published in 1927, Helgi Tómasson enlarged and verified my results.

Edith Klemperer, M.D.,
New York, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Thank you for the comment from Dr. Klemperer regarding my recent paper on "Recurrent Psychotic Depression Associated with Hypercalcemia and Parathyroid Adenoma." I state in this paper that the parathyroid adenoma was responsible for producing elevated serum calcium level which I believe to be the cause of this lady's current depressive episode. This has been observed by neurophysiologists who

have found the symptoms of hypercalcemia to be responsible for depression in man as well as in animals. I am also interested in Dr. Klemperer's observation regarding her own personal work with serum calcium and depressions; but in some of my recent research, I have not been able to substantiate her findings of elevated serum calcium levels in patients suffering from involutional psychotic depressions.

Martin M. Mandel, M.D.,
Philadelphia, Pa.

SOCIAL PSYCHIATRY

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: We wish to clarify and correct several points in our review of Social Psychiatry which appeared in the January 1961 issue of the Journal.

1. The sentence appearing on page 613, paragraph 4, should read: "The study of Knobloch and Pasamanick, regarding such variables as *mental deficiency* and seasonal variations in births, has recently been discussed and challenged . . ." The Sterling critique we alluded to referred only to a paper published in 1958, which we inadvertently did not cite in our bibliography. (Knobloch, H., and Pasamanick, B.: Seasonal Variation in the Births of the Mentally Deficient. *Am. J. Publ. Health*, 48: 1201.)

2. The two current publications of Pasamanick *et al.* which we did cite are further epidemiological studies of these investigators which we regard as being of general interest and importance.

3. Yet unpublished at the time of writing of our review was the reply to their critic by Doctors Pasamanick and Knobloch. (Pasamanick, B., and Knobloch, H.: *Am. J. Publ. Health*, 50: 1737, November, 1960.)

4. It has been brought to our attention that the following sentence in our article can be subjected to possible misinterpretation: "Aside from the specific points at issue in this particular controversy is the sobering realization that once results have been published as 'facts' they tend to assume a peculiar life of their own, becoming divorced from the body and context of the investigation from which they derived." Our intent was to paraphrase a general point Sterling makes. We did not wish to cast aspersion on Pasamanick's data, but merely wanted to express that important scientific data need to be corroborated. We neither wished to take sides in the controversy nor to make any invidious inferences. Our position is that only further studies and additional data will serve to clarify the facts. Pending such information, we wish to withhold any judgment. To avoid any misunderstanding, therefore, we are withdrawing the entire sentence.

M. P. Pepper, M.D.,
and F. C. Redlich, M.D.,
Yale University School of Medicine,
New Haven, Conn.

NEWS AND NOTES

FIRST LATIN AMERICAN CONGRESS OF PSYCHIATRY.—This Congress will be held in Caracas, Venezuela, May 28-31, 1961. This Congress has been organized under the sponsorship of the "Asociación Psiquiátrica de la América Latina."

President of the Congress is Dr. Mata de Gregorio of Venezuela, and Vice-Presidents are Dr. Pacheco E. Silva of Brazil and Dr. José Bustamante of Cuba. Other members of the Central Committee are Dr. Risquez Figuera and Dr. Ibañez Petersen of Venezuela.

Dr. Manuel Manrique of New York is the representative in the United States and Canada.

The official agenda will include: 1. Psychiatric care in Latin America; 2. Teaching of psychiatry in Latin America; 3. Discussion of modern research on epilepsy.

DR. FREYHAN GOES TO N.I.M.H.—Dr. Fritz A. Freyhan, assistant professor at the University of Pennsylvania and director of research at Delaware State Hospital has been appointed Clinical Professor of Psychiatry at the George Washington University and Deputy Chief of the Clinical Neuropharmacology Research Center in Charge of Clinical Studies at the National Institute of Mental Health, Bethesda, Md. The Research Center is a joint research facility of the N.I.M.H. and St. Elizabeths Hospital in Washington. The Center, which is physically located at St. Elizabeths Hospital, is under the immediate direction of Dr. Joel Elkes, Chairman of the joint committee on research, NIMH-SEH.

Dr. Freyhan, born in Germany, has been an American citizen since 1943. He has been associated with Delaware State Hospital, Farnhurst, Delaware, from 1940 until assuming his present duties at the Clinical Neuropharmacology Research Center, February 15, 1961.

CERTIFICATION OF PROFESSIONAL SOCIAL WORKERS.—A nationwide plan for the certification of professional social workers will be

put into effect on Dec. 1, 1961 by the National Association of Social Workers. Those social workers who apply for and obtain accreditation by an Academy of Certified Social Workers will be permitted to use the initials "aCSW" in signing their names and to display in their offices an annually renewable certificate.

At present more than 25,000 current full members of NASW will receive applications for membership in the Academy. Full members of NASW on Dec. 1 may be certified on that date if they have been members of the Association for two years of paid social work employment. Other full members on that date have two years to meet these conditions. Social workers entering NASW after Dec. 1 will have to meet more extensive requirements, including two years employment in one agency under supervision of a certified social worker.

NATIONAL INSTITUTES OF HEALTH GRANTS FOR STUDY OF AGING.—The NIH has made 64 grants to private institutions totaling \$1,427,883 for research in various aspects of aging. These grants have been made to investigators in 25 states and the District of Columbia, with one for studies at the University of Cape Town, South Africa.

Twenty-three grants, amounting to \$389,729, are continuations of previous projects, while 41, totaling \$1,038,154, are new grants. One new award by the Division of General Medical Sciences to Brown University, Providence, R. I., provides for the establishment for a university-wide center to study the socio-economic factors and to assess their relationship to the medical and biologic aspects of aging. Other institutions with similar grants are: Duke University, Albert Einstein College of Medicine, Western Reserve University, and the University of Miami School of Medicine.

The NIH is supporting 700 research projects related to aging at a total annual expenditure of \$16,234,564. These figures are for a one-year period ending Jan. 31, 1961.

THE NEW YORK STATE INSTITUTE FOR RESEARCH IN MENTAL DEFICIENCY.—Governor Rockefeller has announced that a new Institute for basic research in mental retardation, believed to be the first of its kind in the world, will be established adjacent to the Willowbrook State School on Staten Island on land already owned by New York State.

The Institute will be an independent facility with its own director and staff. It will comprise laboratories, clinical facilities, and administrative offices. Individual laboratories will provide for studies in psychology, biochemistry, pharmacology, genetics, and microbiology, biophysics, metabolism and pathology. There will also be facilities for animal studies.

Proximity to Willowbrook State School will provide a broad range of cases for study. The clinical areas of the Institute will contain several small wards constructed to permit continuous observation and recording of patients' behaviour.

DR. IRVING HYMAN.—Dr. Hyman, 52, professor and chairman of the department of neurology at the University of Buffalo Medical School and chief of neurology at Buffalo General Hospital, died March 7, 1961 in Roswell Park Memorial Institute.

In 1929, Dr. Hyman received his B.A. and his M.D. from the University of Buffalo and did postgraduate work in neuropathology at Maudsley Hospital, England. He is a diplomate of the American Board of Psychiatry and Neurology.

He entered the Medical Corps in 1942 as a major, serving as head of the neuro-psychiatric division of the 23rd General Hospital at Ft. Meade, Naples and Vittel. Two years ago he became chief of neurology at Buffalo General Hospital.

Being active in many professional and community organizations, Dr. Hyman was a member of the Executive Committee of the Medical School and director of electroencephalography at both General and Millard Fillmore Hospitals.

1961 WORKSHOP IN THE RORSCHACH TECHNIQUE.—This workshop, jointly sponsored by Claremont Graduate School in Claremont

and Childrens Hospital, Los Angeles, will be held September 3 to 15 at Acilomar Conference Grounds, Pacific Grove, Calif. It will be devoted to the study of projective techniques as used with children; a number of courses will be available.

Tuition is \$50.00. For applications write to Dr. Bruno Klopfer, P.O. Box 2971, Carmel, Calif. before Aug. 1. Qualified graduates accepted for the workshop may apply for 2 units of credit (Psychology 243, or 244a,b,c) to the Claremont Graduate School, Claremont, Calif. before Aug. 1.

INSTITUT ALBERT-PREVOST ACCREDITED.—The Institut Albert-Prévost of Montreal, Canada, has recently been fully approved by the Central Inspection Board.

At the present time, only 76 hospitals have been given full accreditation by the American Psychiatric Association, a distinction held by only 2 other psychiatric hospitals in Canada. This approval was granted following a comprehensive survey and a rating of the hospital based on standards formulated by the Committee on Standards and Policies of hospitals and clinics.

The Institution is affiliated with the University of Montreal, Department of Psychiatry, for under and postgraduate training of residents, psychologists, social workers and psychiatric nurses.

AMERICAN PSYCHOLOGICAL ASSOCIATION.—The 69th Annual Convention of the American Psychological Association will be held at the Commodore, Biltmore and Roosevelt Hotels in New York City, August 31-September 6, 1961.

Members and guests will not only attend meetings and read papers, but will also visit the many exhibits provided to catch up on recent developments in instrumentation, tests, books and other publications, etc.

For regulations and forms for the 1961 Convention write to: Mr. George S. Speer, Institute for Psychological Services, Illinois Institute of Technology, 3329 S. Federal St., Chicago 16, Ill.

APPOINTMENT OF DR. RICHARD L. JENKINS AS PROFESSOR OF CHILD PSYCHIATRY.—This appointment to the Department of Psychia-

try at the University of Iowa has been announced. Dr. Jenkins had previously been with the Veterans' Administration as Director of the Psychiatric Evaluation Project. Prior to this he worked in child psychiatry. After serving as Pediatrician at the Institute for Juvenile Research Dr. Jenkins studied with Dr. Adolf Meyer as a Rockefeller Fellow. He served as psychiatrist at the New York State Training School for Boys at Warwick and at the Michigan Child Guidance Institute in Ann Arbor. He returned to the Institute for Juvenile Research, first as chief psychiatrist, then as acting director. Following this, he was psychiatrist in the Health Service of the University of Illinois at Urbana.

DR. HAMBURG TO HEAD PSYCHIATRY AT STANFORD.—Dr. David A. Hamburg, chief of the Adult Psychiatry Branch of the National Institute of Mental Health in Bethesda, Md., has been appointed professor and executive head of the department of psychiatry of the Stanford University School of Medicine. He will assume his new duties Aug. 1, 1961.

With the appointment of the new dean, Dr. Robert H. Alway in 1952, a reorganization plan was adopted to make the medical school an integral part of the University. To this end six heads have been appointed, Dr. Hamburg being the last.

ALFRED KORZYBSKI MEMORIAL MEETING.—This annual Memorial Meeting took place on the evening of Apr. 20, at the Harvard Club in New York City. Robert R. Blake, professor of psychology at the University of Texas, and organizational consultant, spoke on "From Industrial Warfare to Collaboration: A Behavioral Science Approach."

THE NEW YORK ACADEMY OF SCIENCES.—A conference on "Fundamentals of Psychology: The Psychology of the Self" will be held under the auspices of this Academy at the Barbizon-Plaza Hotel in New York City on May 11 and 12, 1961.

An invitation to attend the conference will be issued to interested professional persons upon request. There is no registration or other obligation of fee for those attend-

ing. Such requests should be addressed to The Executive Director, The New York Academy of Sciences, 2 East 63rd Street, New York 21, N.Y.

DR. PASAMANICK HONORED.—Dr. Benjamin Pasamanick, Professor of Psychiatry at Ohio State University and Director of Research at the Columbus Psychiatric Institute, received the \$500 Stratton Award of the American Psychopathological Association for 1961 for his studies on the epidemiology of mental disorder. Dr. Pasamanick has received the two major awards for research in psychiatry given by national organizations, having been awarded the Hofheimer Prize of the American Psychiatric Association in 1949 for his studies on child development.

INSTITUTIONALIZING YOUNG DEFECTIVES.—An experimental program to provide comprehensive community care for retarded infants and their families was initiated at the New York Medical College, Flower and Fifth Avenue Hospitals, New York City, by the New York State Department of Mental Hygiene on March 1, 1961. The purpose is to determine whether such service can reduce the need for institutionalization of the young retarded.

The two-year project will be financed by a \$60,000 yearly grant from the Department of Mental Hygiene. Mongoloid retardates under 5 years of age from the New York City area will be selected from existing department waiting lists for the study.

Deputy Commissioner Pense reports that the number of applications for admission of children under 5 has increased steadily in recent years; approximately 40 applications are filed monthly in the New York City area. It is hoped that if parents are given appropriate advice as well as emotional support through psychiatric and social work methods, many of these children could be cared for at home for a number of years.

PSYCHIATRIC AND NEUROLOGICAL CONGRESS IN THE FRENCH LANGUAGE.—This Congress will hold its 59th session at Montpellier, July 10-15, 1961. At the psychiatric section Messrs. Warot and Fossati (Lille)

will discuss the endocrine psychoses.

In the neurological section Messrs. Pellegrin and Darcourt (Marseille-Nice) will report on the occipital lobe in the light of new neurosurgical and neurophysiological findings.

Representing the forensic section Monsieur J. Ley (Bruxelles) will speak on the medico-psychological and social bases of the criminal law.

Dr. Paul Cossa, 29 Boulevard Victor-Hugo, Nice, is the Secretary General of this Congress.

RESEARCH PROJECT ON HABIT FORMATION AND DRUG ADDICTION.—The new *Monograph Series on Child Psychiatry*, published by Pergamon Press, plans a volume on habit formation related to foods and medicines and drug addiction in youth from infancy to age 20. Reports on individual cases and any kind of experiences with such pathology will be welcomed. All material should be sent to the editor, Dr. Ernest Harms, 158 East 95th Street, New York, N. Y.

CONFERENCE ON DREAMS.—On May 24, 1961, 8:30 p.m. at the New York Academy of Medicine, the Association for the Advancement of Psychoanalysis will hold a

meeting devoted to "The Dream—A Mobilizing Force in Therapy." The principle speaker will be Dr. Frederick A. Weiss, whose concepts of dream interpretation embrace the contributions of all analytic schools. The discussants are Dr. Harry Gershan and Dr. Edward S. Tauber (by invitation).

PSYCHODRAMA AND GROUP PSYCHOTHERAPY.—The American Academy of Psychodrama and Group Psychotherapy will hold a one-day meeting at the Morrison Hotel, Chicago, Ill., on Sunday, May 7, 1961. Participants may write to Dr. Robert S. Drews (M.A.P.A.), President, 12500 Broadstreet Blvd., Detroit 4, Mich.

PROFESSOR FRANKL COMES TO HARVARD.—Dr. Viktor E. Frankl, Professor of Psychiatry at the University of Vienna and head of the Neurological Department of the Vienna Poliklinik, comes to Harvard University for the summer session, June 26 to August 18, 1961. He will offer the Course S182—The Abnormal Personality, 9-10:00 A.M., Monday through Friday; and Seminar: Existence and Values: Foundations of Logotherapy, Tuesday and Thursday, 2-4:00 P.M.

PRESENTING PAPERS

In my opinion the reading aloud of a written paper is a cardinal sin, as deplorable as meretricious writing; it is a wicked procedure, utterly contemptuous of the audience and unfair to it.

—GEORGE SARTON
Historian of Science

EXPERIENCE

We learn from experience that men never learn anything from experience.

—G. B. SHAW

BOOK REVIEWS

AMERICAN HANDBOOK OF PSYCHIATRY. Edited by Silvano Arieti. Editorial Board: Kenneth E. Appel, David Blain, Norman Cameron, Kurt Goldstein, Lawrence C. Kolb. (New York: Basic Books, Inc. 1959. Volume One, pp. 999, Volume Two, pp. 1099.)

The editor has done a remarkable job in record time. There are more than 2,000 pages in 100 chapters and 15 main parts reaching from a pedestrian first historical chapter over Zen Buddhism and Martin Buber to Mental Hygiene and psychiatric organizations in the U.S.A. There is first a general part with an admirably concise and solid chapter on genetics by Kallman, a part on psychoneuroses and the like, a part on the functional psychoses most of which is covered by Arieti quite satisfactorily. Part Four contains Psychopathies and Addictions, Part Five, Psychosomatic Medicine; here is an interesting report on disturbances of the body image by L. C. Kolb. Parts Six and Seven deal with Childhood and Adolescence and with Language, Speech, and Communications, respectively. Part Eight, Organic Conditions, is the beginning of Volume Two. In the first chapter on neurosyphilitic conditions, W. L. Bruetsch has done very well. There are useful contributions on Postencephalitic Conditions by Hans Strauss and on Psychoses with Huntington's Disease by Bigelow, Roizin, and Kaufman.

Part Nine brings the psychotherapies, Part Ten the Psychoanalytic Therapies. In Part Eleven the great experience of Kalinowsky on Convulsive Shock, of Freeman on Psychosurgery and of Hoch on Drug Therapy are welcome and unusually helpful. In Part Twelve, among other topics, Neurophysiology is done by Gerard, Neurology by Cobb—it is not possible to mention everything and everybody.

Part Thirteen has a touch of Philosophy, Religion, and, as mentioned, Zen Buddhism and Buber. The last two chapters are dedicated to management and care of the patient and to legal, administrative, didactical, and preventive psychiatry.

This is quite a *tour de force*—is it not? It is obvious that not all the chapters can be equally good. At any rate, this *Handbook* may be used advantageously by the experienced psychiatrist; it ought not to be recommended to the beginner.

The historian (Nolan Lewis) opines that since 1937 an American School developed in

Psychiatry. No use to argue about this claim as one would have to define "school" first. That the attitude of the American Psychiatrist is fundamentally pragmatic is not news—not bad news, anyway. For this reviewer, the nosological kinship to Kraepelin's system is impressive in this work. It is, for this reviewer, no less impressive that, if he is counting correctly, of 111 contributors there were 96 physicians, i.e., doctors of medicine. A considerable number of the contributors got their training abroad. Arieti is a graduate of the University of Pisa (Italy) Medical School.

Arieti has made some very short and clear remarks on the Existentialist School (pp. 423-424) for which he merits a special compliment.

The chapter "The Existential Approach" is written by Rollo May, a psychologist, who, in this reviewer's opinion, has an unfortunate love affair with the pertinent philosophy.

EUGEN KAHN, M.D.,
Houston, Tex.

CURRENT THERAPY, 1960. Edited by Howard F. Conn, M.D. (Philadelphia: W. B. Saunders, 1960, pp. 808. \$12.00.)

This is the 1960 edition of a well-known annual series which deals in a practical way with methods of treatment of a wide variety of diseases. In each case one of the contributors describes his own methods of treating this particular disease. Since there are over 300 contributors to this edition, there is a good deal of variation in the style and the approach to the subject. However, the contributors are generally of a high calibre, and in the majority of cases they present useful and up-to-date information on methods of treatment, the most effective drugs with details of their dosage and administration, toxic or side effects of the drugs, and the expected response of the patient. Since it is one man's method of treatment that is presented, there is usually no attempt made to discuss the pros and cons of all the current methods of treatment for a disease, but rather the ones that the contributor has found most effective in his own practice.

The section on psychotherapy is written by V. Gerard Ryan of Portland, Conn. It is intended to guide the general practitioner or internist in the treatment of patients with neuroses and psychosomatic illnesses. There is a brief discussion of psychotherapeutic techniques, drug therapy for symptomatic relief, and the selec-

tion of patients who should be referred to a psychiatrist for consultation or treatment. Obviously it is difficult to cover such a broad field in a few pages, but there is a good deal of practical information that should be helpful to most physicians.

The psychoses are considered under the headings of schizophrenia, mental depression, manic-depressive disease and delirium. Here is discussed the role of the general practitioner in the treatment of psychoses, the management of acutely disturbed patients. There is a brief outline of some of the current methods of treatment of mentally ill patients in hospital and drug therapy. Indications for electric shock therapy are covered.

Included in the appendices are a roster of drugs giving common trade names and dosage, a table of pediatric dosages, normal laboratory values, and poisonous substances in many household and commercial products. There is a good section on acute poisoning. Generally this is a very useful reference book for a physician in almost any branch of medicine.

A. D. McKELVEY, M.D.,
University of Toronto.

RESEARCH CONFERENCE ON THERAPEUTIC COMMUNITY. Compiled and edited by Herman C. B. Denber. (Springfield, Ill.: Charles C Thomas, 1960, pp. 265. \$11.00.)

This book is a series of 14 papers which were presented at a research conference held in the Manhattan State Hospital, March 13-15, 1959, under the chairmanship of Henry Brill. This same group had held a previous meeting in Montreal and the proceedings of that meeting are chronicled in *The Dynamics of Psychiatric Drug Therapy* (ed., G. J. Sarwer-Foner, Springfield, Illinois, Charles C Thomas).

A variety of aspects of the therapeutic community are covered in the various papers and if there is any central theme it may be the emphasis upon conversion of the milieu to a greater degree of "therapeuticity" than existed before. H. Brill in his opening remarks reviews the history of the therapeutic community under its various aliases, emphasizes that this is not something new and warns that humanitarian improvements are reversible.

Chittick, Brooks and Deane describe and discuss the 8-point Vermont State Hospital program and the excellent results that ensued. At the completion of this program the discharge rate almost approximated the admission rate.

Irwin discusses modification of social behavior of animals through the use of drugs.

He concerns himself exclusively with sub-human social organizations where it has been demonstrated that drugs may alter competitiveness, cooperativeness, locomotor activity, aggressiveness, sexual behavior, apprehension and anxiety, imprinting, resistance and contagious behavior. All are factors relevant to the type of social organization that is operating. He prudently refrains from any sweeping generalizations as to how this information may have application to our concepts of human social organization although he suggests that this information is relevant.

Meszáros discusses principles of research in a therapeutic community setting and points out advantages and disadvantages. His primary contention seems to be that in those instances where the research process conflicts with the therapeutic goals, it must adapt its methods and objectives to become compatible with the treatment milieu.

Denber presents a paper which is primarily a documentation of the transformation of a state hospital ward of chronically ill female psychotics from a custodial to a therapeutic regime (over a 2 year period). His paper best exemplifies the important principles of the therapeutic community, although some of the other papers stressed some of these principles as well.

Denber pin-points and high-lights the following factors: 1. The crucial relationship between administration and staff, 2. The importance of staff attitude—especially their preparation for change and the value of their cooperation, 3. The importance of recognizing the dignity of the individual—both patient and personnel, 4. The need for mutual respect between the psychiatric disciplines and 5. The ever present conflict between custody and therapy.

Sarner-Foner, Ogle and Danczy document a similar effort at Ste. Anne's Hospital in Montreal. Their paper contains greater detail of the physical organization of the ward and in many respects repeats the principles discussed by Denber. This paper is particularly valuable for one who is planning his first conversion to a therapeutic regime. It contains much practical information.

Greenblatt and Levinson document the results of some of their open door experiments. This is covered from the viewpoint of each of the psychiatric disciplines involved—and the difficulties encountered before success was attained. They conclude, after two years of effort, that "the open door is a fait accompli. It is accepted. It is good." At the same time though they stress that "taking the United States as a whole, the overwhelming majority

of hospitals are not open at all." They conclude with "an open door without an open mind is bound to be a failure."

Roberts reports upon his experiences in implementing the therapeutic community by means of group meetings. In his opinion it has proven to be a valuable tool. He makes a sharp distinction between group meetings and group therapy. Gralnick emphasizes the relationship between psychiatrist, patient and family and stresses that "total" treatment involves participation of each member of this triad. Boad discusses the day hospital as a therapeutic community and points out the need for this specialized facility, its advantages and pitfalls.

Kwalwasser documents the development of an adolescent pavilion for girls at the Hillside Hospital, some of the difficulties encountered and how they were overcome. This unit, during its development, felt a need to be more closely identified with the total hospital but was thwarted in this aspiration. He concludes that "the higher the esprit de corps in the unit, the great stress and strain it can successfully and therapeutically absorb."

Klerman discusses factors and attitudes which are involved in the arrival at a decision to use drug therapy. He clearly brings out personal and social factors which seem to be relevant although some psychotherapists might take issue with some of his conclusions. "Staff attitude to a particular form of treatment and the choice of treatment for a particular patient might be the condensed expression of the interpersonal forces which surround the patient in the hospital milieu."

Bullard and Hoffman studied the factors which influenced the discharge of a group of chronic, schizophrenic patients. In those patients in whom discharge became a reality, they found that the significant factors were (a) good hospital adjustment, (b) psychotherapeutic relationship with a doctor or social worker, (c) satisfactory attitude of the patient's family and (d) availability of adequate community resources.

E. B. Kris discusses factors which facilitate and prolong patients' release from the hospital. She stresses (a) individualized attention and (b) the need to become self-supporting.

This book is a documentation of some of the, as yet, all too few attempts to convert to a therapeutic or open door regime. The majority of the papers agree to a remarkable extent about which factors are relevant. Almost all of the papers emphasize the importance of the social processes involved. The volume is written in a simple and factual manner and there

is a minimum of dynamic interpretation. Most of the reports are almost a narrative description and they will be invaluable to anyone contemplating the introduction of an open door policy.

PAUL E. FELDMAN, M.D.,
Topeka, Kansas.

LAW AND MEDICINE. By William J. Curran.
(Boston: Little, Brown & Co., 1960, pp. 829, \$12.50.)

The preface to this book commences, "This volume is presented as a text and casebook for practicing attorneys and students of law in those areas of medical science, medical practice, and public health which are most significant to law, our legal system, and the practice of law in the United States today."

In view of this statement, it might be thought that *Law and Medicine* would be of little interest to psychiatrists. The contents lead to a different conclusion. There is a long chapter, comprising 124 pages, devoted to psychiatry and law. The author states, "This is the only chapter in this volume devoted to a single aspect of medical science. There are so many areas of the law, in its theoretical foundations as well as its practical aspects, where psychiatry is vitally involved that it seemed to warrant such treatment."

The topic has been explored thoroughly, including such aspects as psychopathic personality, criminal responsibility, sex offenders, testamentary capacity and domestic relations.

Anyone who is interested in forensic psychiatry will profit by reading Professor Curran's book.

K. G. GRAY, M.D.,
University of Toronto.

HERITABLE DISORDERS OF CONNECTIVE TISSUE. 2nd Ed. By Victor A. McKusick. (St. Louis: C. V. Mosby Co., 1960, pp. 333.)

A welcome second edition of a most informative work on the clinical and genetic facts relating to the disorders of connective tissue. McKusick seems to have covered everything on the subject, and his bibliographies are invaluable. What is remarkable is the frequency with which these hereditary disorders involve a mental deficit. This is a matter which McKusick does not discuss. The connective tissue disorders are readily understandable on the basis of a genetic defect involving mesodermal tissues, but in the cases with accompanying mental defect it is difficult to account for the condition. There may or may not be an ectodermal defect. Much more likely is the possi-

bility of an enzymatic defect. But this is conjecture and what is called for is investigation. The present volume performs the dual valuable functioning of providing all the available information relating to these disorders, and the direction in which further work requires to be done. That work, I suspect, will be largely biochemical in nature.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

PSYCHIATRIC SERVICES AND ARCHITECTURE. By A. Baker, R. L. Davies, and P. Sivadon. (WHO Public Health Papers, No. 1, 1959, pp. 58. 60c.)

This paper is a follow-up on the 1952 report of the WHO Expert Committee on Mental Health which set out the principles which should govern the structure and functions of psychiatric hospitals. It was prepared by the Physician-Superintendents of two mental hospitals (one in Britain, one in France), and by the Director of the Division for Architectural Studies of the Nuffield Foundation. In drawing up the text these eminently competent men consulted "twenty-nine psychiatrists from thirteen countries and from architects from three countries." The resulting report follows the same general principles of previous reports advocating facilities for community care, small hospitals close to centres of population, etc. However, it is not old stuff. Its freshness is due to its style which is succinct, coherent and clear, while in content it presents a comprehensive statement on psychiatric services, with sufficient detail to clearly relate specific architectural arrangements to patient needs.

Since this report is brief considering its scope, since it is easy to read, and since it sounds eminently sensible, it should be read at first hand rather than through a reviewer, particularly since it is in contrast with much that is still being done in hospital planning and design.

B. H. McNEEL, M.D.,
Ontario Department of Health,
Toronto, Ont.

CLINICAL MANAGEMENT OF BEHAVIOR DISORDERS IN CHILDREN. 2ND ED. By Harry Bakwin and Ruth Morris Bakwin. (Philadelphia: W. B. Saunders Co., 1960, pp. 597.)

This admirable work has established itself as a standard work on the diagnosis and management of behavior disorders in children. Written with balance and clarity by a husband-and-wife team of pediatricians of long

and great experience it is a pleasure to welcome the second edition. The book is designed to appeal to a wide range of workers, psychiatrists, pediatricians, general practitioners, psychologists, social workers, and whoever else may in any way be concerned with understanding and treating healthy as well as problem children.

References following each chapter are judiciously chosen, and form a most valuable feature of the book, and there are excellent author and subject indices.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

THE CENTRAL NERVOUS SYSTEM AND BEHAVIOUR. Selected Translations from the Russian Medical Literature under the joint sponsorship of the Josiah Macy, Jr. Foundation and the National Science Foundation. (Bethesda, Md.: 1960.)

This volume of 1051 pages was prepared for distribution by the Russian Scientific Translation Program, National Institutes of Health, Bethesda, Md., primarily for distribution to medical libraries throughout the United States and Canada.

In his preface to the volume Frank Fremont-Smith, M.D., Director of the Josiah Macy, Jr. Foundation states that "the articles selected do not necessarily represent the best research conducted in Soviet laboratories, but were selected as being generally representative of some of the more recent Soviet research concerned with the understanding of human behaviour." Many of the articles are unlikely to be available to individuals who do not read the Russian Language.

C.B.F.

MENTAL DISEASE AMONG JEWS IN NEW YORK STATE. By Benjamin Malzberg, Ph.D. (New York: Intercontinental Medical Book Corporation, 1960, pp. 140. \$3.75.)

The search for etiological clues is one of the major functions of statistical analysis in medicine. This book presents the findings of Dr. Malzberg's investigations into the truth about the incidence of mental disorders among Jews: to those who have followed Dr. Malzberg's valuable contributions to our available knowledge on mental disorders, it will be of special interest.

This study presents statistics on the incidence of mental disease among Jews and white non-Jews in New York State and New York City, based on first admissions to all mental hospitals in New York State during the fiscal

years 1931-1941 inclusive. The distinctive pattern of Jewish experience in mental disorders—a higher relative and absolute incidence of the psychoneuroses and the functional psychoses, and a lower incidence of the organic psychoses—is noteworthy.

Eight groups of mental disorders in two categories, psychoses of organic origin and functional disorders, were studied. The organic group comprised 27.2% of total Jewish first admissions and the functional group 59.8%; the organic group comprised 42.9% of non-Jewish white first admissions, the functional group 40.8%. The observed crude first admission rates per 100,000 population for New York State are as follows:

Diagnosis Category	Jews	Non-Jews (white)
Psychosis with cerebral arteriosclerosis	17.1	20.6
Senile psychoses	8.0	12.6
General paresis	3.0	6.4
Alcoholic psychoses	0.6	8.3
Total organic group	28.7	47.9
Schizophrenic disorders	32.5	24.9
Manic depressive psychoses	12.9	7.9
Involuntional psychoses	9.4	7.1
Psychoneuroses	8.3	5.4
Total functional group	63.1	45.3
All mental disorders	105.6	111.1

As the author points out, while "there may be some dispute as to the validity of first admissions as a complete measure of the incidence of mental diseases . . . their superiority over any other measure now available cannot be denied. . . . We shall leave to the future, attempts to unravel the social and psychological factors that may be basic to the question of differences in mental disease between Jews and any other ethnic group. In the light of the evidence in this study, it must be concluded that the differences are not in the quantitative direction that has been implied in the past, but rather along qualitative lines that require further investigation."

This study is a lesson in the utilization of available mental health statistics. It provides valuable descriptive epidemiological information and should serve as a stimulus to others to pursue further work in this area.

A. H. SELLERS, M.D.,
Toronto, Ont.

DELINQUENCY AND PARENTAL PATHOLOGY. By Robert S. Andry. (London: Methuen & Co. Ltd., 1960, pp. 170. \$3.00.)

The author of this book has set up an experimental design directed towards examining

the emotional triangle between child, mother and father.

The basic technic utilised is an interview-questionnaire. The author sets up a series of hypotheses concerning child-parent relationships and attitudes. These hypotheses are tested by analysing the data obtained through the interview-questionnaire.

The experimental group consisted of 80 boys adjudged to be delinquent and the control group of 80 non-delinquents carefully matched, as regards recognised variables, with the experimental group. The technic aimed at not only obtained data as the child sees the parent role, but also assessing how each parent sees the role he or she plays with the child.

The analysis of the data substantiates the importance of maternal deprivation as an etiological factor in social mal-adjustment. It also clearly indicates that the paternal role is of equal or greater importance as an etiological agent in delinquency.

Dr. Andry has made use of an interesting method of gathering data, concerning parent and child attitudes towards each other. In my opinion this is an important contribution in understanding delinquency, and it indicates the need to carefully study both the child's perception and the parents' perception of their individual roles.

The author provides an appendix to his work titled "A Review of the Literature," which refers briefly to many of the major works of research related to juvenile delinquency. It is, however, far from complete and contributes only in a limited fashion to the usefulness of this book.

The book may be considered as a useful description of a research method and a helpful analysis of certain data related to parental and child attitudes. In my opinion the book would be primarily useful for those engaged in research related to Juvenile Delinquency.

J. D. ATCHESON, M.D.,
Thistletown Hospital, Ont.

REFLEXES TO INTELLIGENCE. By Samuel J. Beck and Herman B. Molish. (Glencoe, Ill.: Free Press, pp. 669, 1960. \$8.50.)

Here two experienced clinical psychologists have assembled no less than 73 selections from the literature of clinical psychology illustrating the evolution of this large and growing field. But this is far more than just another reader. Each chapter is preceded by an introduction, commenting upon the significance of the authors and their viewpoints, and followed by a list of auxiliary readings, many of these accompanied with a brief comment.

Pointing out that the "first man was very likely the first psychologist," the authors devote Section 1 to Clinical Wisdom in Former Times (Homer, the Bible, Shakespeare). Sources and Foundations (Sec. 2) reproduces articles by Darwin, Titchener, Sherrington, James and Dewey, among others. In The Quest for the Whole Person (Sec. 3) we find Freud, Jung, Adler, Sullivan and Cobb. Section 4, The Measure of the Mind, deals especially with psychometrics—Binet, Terman, Wells, Wechsler, and Lightner Witmer (whom he credits with probably having originated the term "clinical psychology").

Disciplines in Interaction (Sec. 5) records the "maturation of clinical psychology"—the cross fertilization of social work, psychology and psychiatry. Due credit is given to Healy as one of the fathers of clinical psychology and to the late Lawson Lowrey, to whom the book is dedicated. Some others quoted in this chapter are Kasanin, Crinker, Kretschmer, Sheldon and Doll.

Next comes a Section (No. 6) on Humans in their Social Context, with selections by Wells, Woodworth and Beck. In the latter selection the author emphasizes the relations of clinical psychology, based on science and humanism, to the demands of other disciplines, especially the social ones. The entire selection is most thoughtful and illuminating.

Finally, in a Section (No. 7) entitled Today's Theorists—Tomorrow's Realists? we find articles by such authors as Burt, Lewin, Rapaport, Rogers, Rorschach and v. Bertalanffy.

The reviewer is tempted to cite many quotations from the introductions to the various sections as well as from the selections themselves, but space hardly permits.

A final quotation from the authors' introduction to the concluding section must suffice: "So from Darwin to von Bertalanffy we have reached full circle—In between these two writers—are the samplings from numerous others in the intervening 100 years.—They embrace that range which Spinoza envisioned of man in his smallness and in his potential greatness." (p. 511)

WINFRED OVERHOLSER, M.D.,
Saint Elizabeths Hospital,
Washington, D. C.

ATLAS OF NEUROSURGICAL TECHNIQUES. By James L. Poppen, M.D. (Philadelphia and London: W. B. Saunders, pp. 522, ill., 1960. \$28.00.)

The purpose of this Atlas is to illustrate and describe in orderly sequence the techniques of neurosurgical procedures. The drawings, done by several artists, are excellent, and accurately focus the factors that the author considers important and to which he draws attention with a few short statements. In general when the Atlas is opened, the right hand page is filled with several drawings, with the essential anatomical and pathological structures clearly labelled. On the opposite page a few short sentences refer in some further detail to the drawings. In this way the orderly and planned steps of all the neurosurgical procedures that this reviewer can think of have been covered.

When referring to some particular problem with which the reviewer is familiar and has had some experience it is disappointing to find little said about the technical difficulties, and complications. It is these things that develop over the years that makes surgical wisdom and judgement so difficult to pass on and to put in writing.

The Atlas will be of great value to all neurosurgeons. Variations from the reader's personal technique can be quickly and easily appreciated. Even the very experienced neurosurgeon will pick up valuable points, knowing full well that the author has been through the mill and has had a vast experience in the encyclopedic range of neurosurgical procedures covered in this superbly illustrated Atlas.

In 1922, the reviewer first saw Doctor Lahey operate. The general impression was one of perfection in all operating room details. The personnel functioned at its best individually and as a team and all were under the certain direction of a great master general surgeon. Much of this rubbed off on one of his favorite pupils, Jim Poppen, constituting a base on which to develop his own superb technique and the ability and knowledge to enable him to publish this very excellent and valuable *Atlas of Neurosurgical Techniques*. It is a pleasure and a thrill to review a book when one has known and admired the author for a great many years.

K. G. MCKENZIE, M.D.,
Senior Consulting Surgeon,
Toronto General Hospital.

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1. Konchegul, L.: M. Ann. D. of C. 27:405 (Aug.) 1958.
2. Kruse, W.: Dis. Nerv. System 21:79 (Feb.) 1960.
3. Zier, A. and Doshay, L. J.: Neurology 7:485 (July) 1957.
4. Lerner, P. F.: J. Nerv. & Ment. Dis. 123:79 (Jan.) 1956.

Complete literature available on request.



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[®]Furst, W. M.D., F.A.P.A. (Attending Neuropsychiatrist, East Orange General Hospital, East Orange, N. J.): Psychopharmacological or Electrical Therapy of Severe Endogenous Depression, *J. M. Soc. New Jersey* 57:3 (March) 1960.

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Nardil has an excellent safety record—established by over 100 scientific reports, and confirmed by a minimal incidence of toxicity in more than several hundred thousand patients to date.



PSYCHIATRIC PRESCRIBING INFORMATION

INDICATIONS: 'Stelazine' produces rapid response in many diagnostic categories, including acute and chronic schizophrenias, manic-depressive psychoses, involuntary psychoses, chronic brain syndrome and mental deficiency.

ADMINISTRATION AND DOSAGE: Dosage of 'Stelazine' should be adjusted to the needs of the individual.

Because of the inherent long action of 'Stelazine', patients may be controlled on convenient b.i.d. administration; some patients, on once-a-day administration.

Adult Dosage for Use in Psychiatric Practice

oral (for office patients and outpatients with anxiety): The usual starting dosage is 1 mg. b.i.d. In some cases, a better response is achieved on 2 mg. b.i.d. In the treatment of these patients, it is seldom necessary to exceed 4 mg. a day. (Some patients with more severe disturbances, and discharged mental patients, may require higher dosages.) In some patients, maintenance dosage can be reduced to once-a-day administration.

oral (for patients who are either hospitalized or under adequate supervision): The usual starting dosage is 2 mg. to 5 mg. b.i.d. (Small or emaciated patients should always be started on the lower dosage.) The majority of patients will show optimum response on 15 mg. or 20 mg. daily, although a few may require 40 mg. a day or more. It is important to give doses that are high enough for long enough periods of time—especially in chronic patients.

Optimum therapeutic dosage levels should be reached within two or three weeks after the start of therapy. When maximum therapeutic response is achieved, dosage may be reduced gradually to a satisfactory maintenance level.

intramuscular (for prompt control of severe symptoms): The usual dosage is 1 mg. to 2 mg. (½-1 cc.) by deep intramuscular injection q4-6h, p.r.n. More than 6 mg. within 24 hours is rarely necessary. As soon as a satisfactory response is observed, oral medication should be substituted at the same dosage level or slightly higher.

Only in very exceptional cases should intramuscular dosage exceed 10 mg. within 24 hours. Since 'Stelazine' has a relatively long duration of action, injections should not be given at intervals of less than 4 hours because of the possibility of an excessive cumulative effect.

'Stelazine' Injection has been exceptionally well tolerated; there is little, if any, pain and irritation at the site of injection.

Dosage for Psychotic and Mentally Defective Children

The dosages given below apply to children, ages 6 to 12, who are either hospitalized or under adequate supervision.

oral: The starting dosage is 1 mg. administered once a day or b.i.d., depending on the size of the child. Dosage may be increased gradually until symptoms are controlled or until side effects become troublesome. Both the rate and the amount of dosage increases should be carefully adjusted to the size of the child and the severity of the symptoms, and the lowest effective dosage should always be used. Once control is achieved, it is usually possible to reduce dosage to a satisfactory maintenance level.

In most cases, it is not necessary to exceed 15 mg. of 'Stelazine' daily. However, some older children with severe symptoms may require, and be able to tolerate, higher dosages.

intramuscular: There has been little experience with the use of 'Stelazine' Injection in children. However, if it is necessary to achieve rapid control of severe symptoms, 1 mg. (½ cc.) of 'Stelazine' may be administered intramuscularly once or twice a day, depending on the size of the child. Once control is achieved, usually after the first day, the oral dosage forms of 'Stelazine' should be substituted for the Injection.

SIDE EFFECTS: In the dosage range of 2-4 mg. daily, side effects from 'Stelazine' are infrequent. When they do occur, they are usually slight and transitory. Mild drowsiness occurs in a small percentage of patients; this usually disappears after a day or two of 'Stelazine' therapy. There are occasional cases of dizziness, mild skin reaction, dry mouth, insomnia and fatigue; rarely, extrapyramidal symptoms.

In hospitalized psychiatric patients receiving daily 'Stelazine' dosages of 10 mg. or more, clinical experience has shown that, when side effects occur, their appearance is usually restricted to the first two or three weeks of therapy. After this initial period, they appear infrequently, even in the course of prolonged therapy. Termination of 'Stelazine' therapy because of side effects is rarely necessary.

Side effects observed include dizziness, muscular weakness, extrapyramidal symptoms, anorexia, rash, lactation and blurred vision. Drowsiness has occurred, but has been transient, usually disappearing in a day or two.

Extrapyramidal Symptoms

These symptoms are seen in a significant number of hospitalized mental patients receiving 'Stelazine'. They may be characterized by akathisia, by the dystonic type, or they may resemble parkinsonism.

akathisia: Some patients may experience an initial transient period of stimulation or jitteriness, chiefly characterized by motor restlessness and sometimes insomnia. These patients should be reassured that this effect is temporary and will disappear spontaneously. The dosage of 'Stelazine' should not be increased while these side effects are present.

If this turbulent phase becomes too troublesome, the symptoms can be controlled by a reduction of dosage or the concomitant administration of phenobarbital or some other barbiturate.

dystonia: These symptoms are rare outside of mental hospitals, but they may be observed occasionally in patients who have received 'Stelazine' as a mild tranquilizer.

Symptoms may include: spasm of the neck muscles, sometimes progressing to torticollis; extensor rigidity of back muscles, sometimes progressing to opisthotonos; carpal spasm, trismus, swallowing difficulty, oculogyric crisis and protrusion of the tongue.

The onset of the dystonias may be sudden. A primary characteristic of these symptoms is their intermittency. They may last several minutes, disappear and then recur. There is typically no loss of consciousness and definite prodromata are usually present. Initially, these intermittent symptoms occur in a crescendo of intensity. Then, as the effect of the drug wears off, the intervals between the occurrence of symptoms become longer, and the intensity of the symptoms subsides.

Despite their similarity to symptoms of serious neurological disorders, these dystonias are usually promptly reversible and need not cause undue alarm. They usually subside gradually within a few hours, and almost always within 24 to 48 hours, after the drug has been temporarily discontinued.

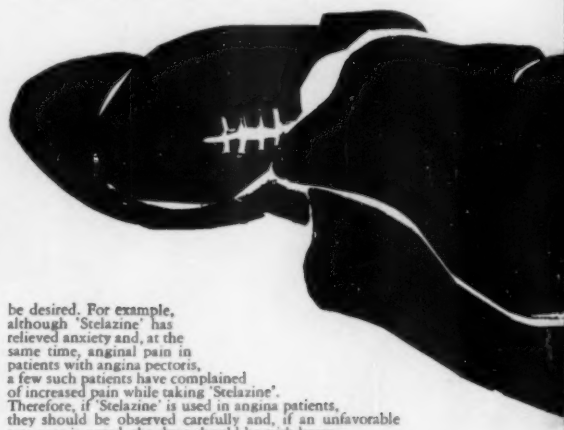
Treatment is symptomatic and conservative. In mild cases, reassurance of the patient is often sufficient therapy. Barbiturates are also useful. In moderate cases, barbiturates will usually bring rapid relief. The dosage and route of administration of the barbiturate used should be determined by the intensity of the symptoms and the response of the patient. In more severe adult cases, the administration of an anti-parkinsonism agent produces rapid, often dramatic, reversal of symptoms. Also, intravenous caffeine and sodium benzoate seems to be an effective and rapid antagonist to the dystonias. In children, reassurance and barbiturates will usually control symptoms. Dosage and route of administration should be determined according to the intensity of symptoms and response of patient. Note: It has been reported that injectable administration of Benadryl* may also be helpful in controlling dystonias.

pseudo-parkinsonism: These symptoms are extremely rare outside of mental hospitals.

Symptoms include: mask-like facies; drooling; tremors; pillrolling motion; and shuffling gait.

Reassurance and sedation are important components of effective therapy. In the majority of cases these symptoms are readily reversible when an anti-parkinsonism agent is administered concomitantly with 'Stelazine'. Occasionally it is necessary to lower the dosage or to temporarily discontinue the drug.

CAUTIONS: Clinical experience has demonstrated that 'Stelazine', a phenothiazine derivative, has a wide range of safety and that there is little likelihood of either blood or liver toxicity. The physician should be aware, however, of their possible occurrence. One of the results of 'Stelazine' therapy may be an increase in mental and physical activity. In some patients, this effect may not



be desired. For example, although 'Stelazine' has relieved anxiety and, at the same time, anginal pain in patients with angina pectoris, a few such patients have complained of increased pain while taking 'Stelazine'. Therefore, if 'Stelazine' is used in angina patients, they should be observed carefully and, if an unfavorable response is noted, the drug should be withdrawn.

Hypotension has not been a problem, but nevertheless adequate precautions should be taken when the drug is used in patients with impaired cardiovascular systems.

The antiemetic action of 'Stelazine' may mask signs of overdosage of toxic drugs or may obscure the diagnosis of conditions such as intestinal obstruction and brain tumor.

Although 'Stelazine' has shown very little potentiating activity, caution should be observed when it is used in large doses in conjunction with sedatives or depressants.

CONTRAINDICATIONS: 'Stelazine' is contraindicated in comatose or greatly depressed states due to central nervous system depressants.

AVAILABLE: Tablets, 1 mg. and 2 mg., in bottles of 50, 500 and 5000. (Each tablet contains 1 mg. or 2 mg. of trifluoperazine, as the dihydrochloride.) Also available, for psychiatric patients who are hospitalized or under close supervision: Tablets, 5 mg. and 10 mg., in bottles of 50, 1500 and 5000. (Each tablet contains 5 mg. or 10 mg. of trifluoperazine, as the dihydrochloride.) Injection, 10 cc. Multiple-dose Vials (2 mg./cc.), in boxes of 1 and 20. (Each cc. contains, in aqueous solution, 2 mg. of trifluoperazine, as the dihydrochloride, 4.75 mg. of sodium tartrate, 11.6 mg. of sodium biphosphate, 0.3 mg. of sodium saccharin and 0.75% of benzyl alcohol. Concentrate (for hospital use), 2 fl. oz. bottles (10 mg./cc.), in boxes of 4 and 12. (Each cc. contains 10 mg. of trifluoperazine, as the dihydrochloride.)

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XXVII

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DRUG-INDUCED EXTRAPYRAMIDAL DISORDERS

parkinsonism — dyskinesia — akathisia

MUSCULAR SPASTICITY NOT RELATED TO PARKINSONISM

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Frequently diminishes akinesia, rigidity, and tremor with subsequent improvement in coordinated movement, gait, and posture. Masklike face disappears. Salivation and oily skin are decreased. Oculogyric crises are often lessened in intensity and frequency.

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Minimum (mainly dry mouth or blurred vision).

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and "screens out"
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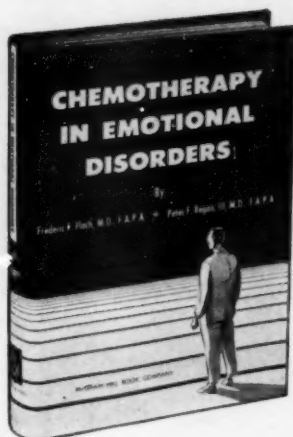
Usual starting dose: Non-psychotic patients — 10 or 25 mg. t.i.d.; Psychotic patients — 100 mg. t.i.d.

Dosage must be individually adjusted until optimal response. Maximum recommended dosage: 800 mg. daily. Supply: Mellaril Tablets, 10 mg., 25 mg., 50 mg., 100 mg.

1. Sandison, R. A., Whitelaw, E., and Currie, J. D. C.: Clinical trials with Mellaril in the treatment of schizophrenia, *Journal of Mental Science (British Journal of Psychiatry)* 106:732, April, 1960. 2. Freed, S. C.: Thioridazine, a neuroleptic in general practice, *International Record of Medicine*, 172:644, Oct. 1959.



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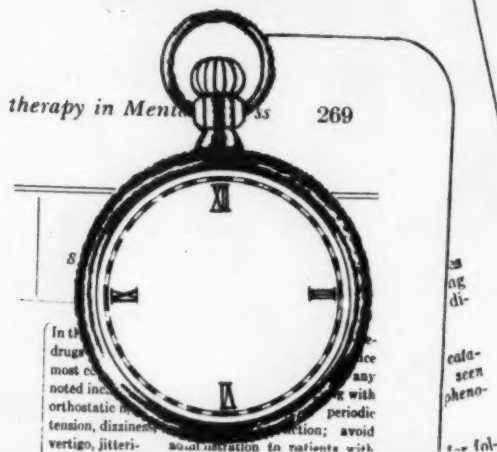
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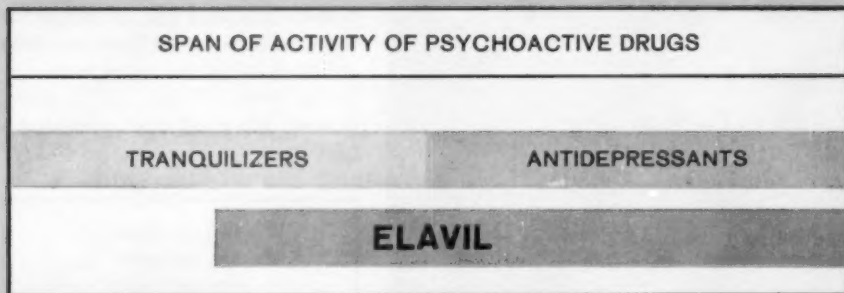
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ANTIDEPRESSANTS			"CNS stimulants and anti-depressants, if given to anxious patients, will increase the anxiety...."	+
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of anxiety and tension... provides prompt relief of anxiety
and insomnia associated with depression*



INDICATIONS: manic-depressive reaction—depressed phase; involutional melancholia; reactive depression; schizoaffective depressions; neurotic depressive reaction; and these target symptoms: anxiety; depressed mood; insomnia; psychomotor retardation; functional somatic complaints; loss of interest; feelings of guilt; anorexia. May be used whether the emotional difficulty is a manifestation of neurosis or psychosis, and in ambulatory or hospitalized patients.^{3, 4, 5}

USUAL ADULT ORAL DOSAGE: Initial, 25 mg. three times a day, until a satisfactory response is noted. Many patients improve rapidly, although some depressed patients may require four to six weeks of therapy before obtaining maximum benefit. In severely depressed patients, as much as 150 mg. per day may be given. Maintenance, 25 mg. two to four times a day. Some patients may be maintained on 10 mg. four times a day. The natural course of depression is often many months in duration. Accordingly, it is appropriate to continue maintenance therapy for at least three months after the patient has achieved satisfactory improvement in order to lessen the possibility of relapse, which may occur if the patient's depressive cycle is not complete. In the event of relapse, therapy with ELAVIL may be reinstituted.

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SUPPLY: Tablets, 10 mg. and 25 mg., in bottles of 100. Injection (intramuscular), 10 mg. per cc., 10-cc. vials.

REFERENCES: 1. Parloff, M. M., and Levick, L. J.: *Clinical Med.* 7:2237, Nov. 1960. 2. Freed, H.: *Am. J. Psychiat.* 117:455, Nov. 1960. 3. Dorfman, W.: *Psychosomatics* 1:153, May-June 1960. 4. Ayd, F. J., Jr.: *Psychosomatics* 1:320, Nov.-Dec. 1960. 5. Barsa, J. A., and Saunders, J. C.: *Am. J. Psychiat.* 117:739, Feb. 1961.

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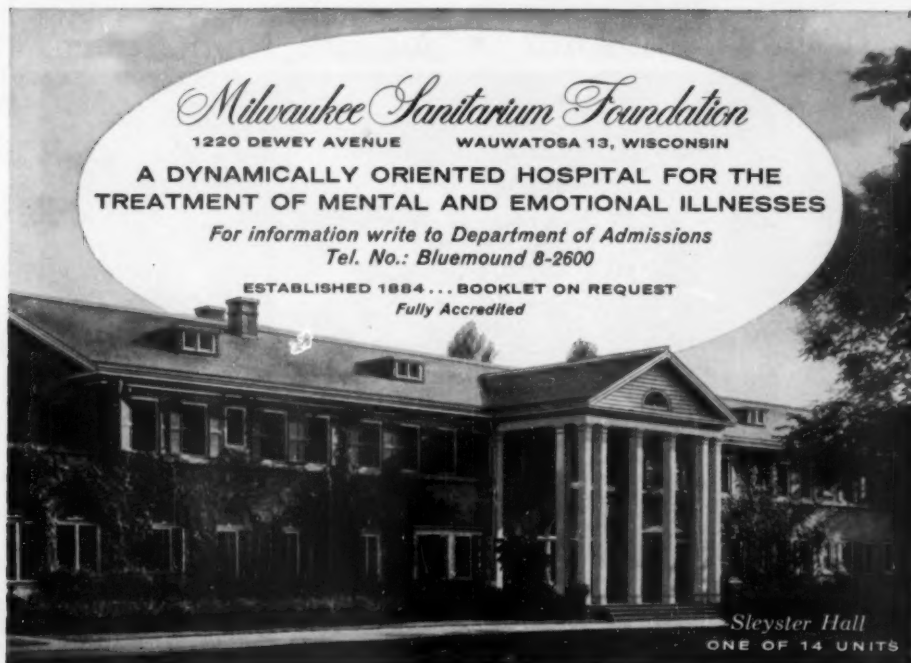
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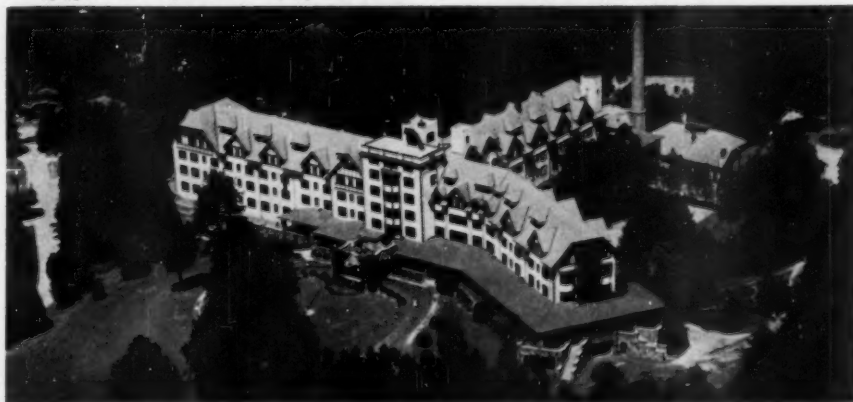
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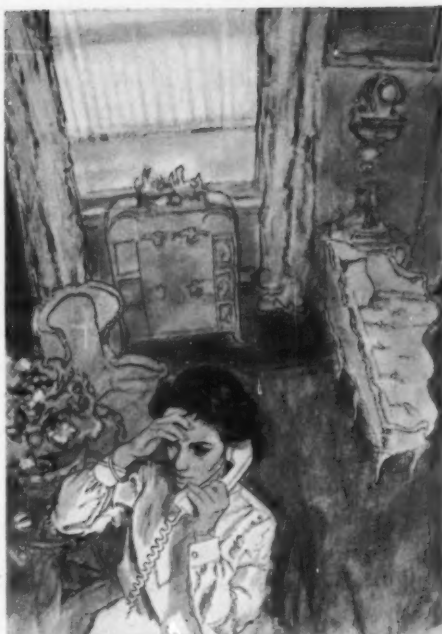
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